

A Preliminary Study of
The Psychosocial Correlates
of Drug Use of Children and Youth
in the Northwest Territories

by

© Janet E. Smith

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Submitted to the Faculty of Education
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A PRELIMINARY STUDY OF THE PSYCHOSOCIAL CORRELATES
OF DRUG USE OF CHILDREN AND YOUTH
IN THE NORTHWEST TERRITORIES

BY

JANET E. SMITH

A thesis submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
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MASTER OF EDUCATION

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ABSTRACT

The use of alcohol and drugs among adolescents is a serious concern for health educators in the Northwest Territories. This study was designed to provide baseline data on the psychosocial correlates related to alcohol and drug use among school students in the Northwest Territories. The study examined the relationship between six variables: ethnicity, gender, grade, peer influence, school self-perception and alcohol and drug knowledge, and the use of six drugs: alcohol, marijuana, solvents, cocaine, chewing tobacco and cigarettes. Students in grades 5 to 8 from 51 schools in the six educational regions of the Northwest Territories were surveyed. The study included males and females from four ethnic groups: Non-Native, Dene, Metis and Inuit. Significant differences were found between ethnicity and use of cigarettes, alcohol and chewing tobacco, grade and use of alcohol, cigarettes and marijuana, peer influence and use of alcohol and all of the drugs, school self-perception and use of cigarettes, and drug knowledge and use of alcohol and cigarettes. There were no significant differences found between gender and use of alcohol, marijuana, cigarettes, solvents and cocaine, grade and use of chewing tobacco, solvents and cocaine, ethnicity and use of marijuana, solvents and cocaine, school self-perception and use of alcohol, marijuana, solvents, cocaine and chewing tobacco, drug knowledge and use of marijuana, solvents, cocaine and chewing tobacco, and alcohol knowledge and use of alcohol and all the drugs. Recommendations for curriculum development are discussed.

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CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

Alcohol and drug abuse is a major health issue facing Native adolescents. In the Northwest Territories, the extent of the problem is serious. In 1986, the Departments of Education and Social Services introduced a drug education program in the schools to show students the relationship between alcohol and drug abuse, and the community's social problems. There is a need to establish baseline data for use in future program evaluation. This study was designed to provide baseline data on the psychosocial factors and knowledge related to drug and alcohol use among students in the Northwest Territories.

General Background

The use of drugs and alcohol among adolescents is a serious concern for society. Despite attempts by schools to establish drug education programs, the use of drugs and alcohol by adolescents is still increasing (Tennant et al., 1973). "The challenge for adolescent health promotion has been to consider both health behaviour goals and the natural development process and to create programs that are consonant with each" (Perry and Murray, 1982:307). Those programs that consider the psychosocial influences on adolescent behaviour are more likely to be successful in changing behaviour. Problem behaviour

theory has been used as a model for adolescent program design and describes the relationship between the psychosocial factors and behaviour.

Before discussing the principles of problem behaviour theory, it must be realized that "engaging in problem behaviour is part of normal adolescent development and plays a major role in the process of transition to young adulthood" (Jessor, 1982:296). Adolescence is a period of experimentation. It is a time that emphasizes changes in personal and social identity (Jessor, 1982). The adolescent is developing a repertoire of behaviours in response to the environment. It is during the transition years, that adolescents have to make choices regarding their personal health practises.

Basically, problem behaviour refers to those behaviours that are socially defined as a problem by society (Jessor, 1982). Jessor (1982) stated that problem behaviours interrelate in systematic ways and that they co-occur in the same adolescent. Jessor (1982) developed a problem behaviour theory to explain adolescent problem behaviour. The theory includes three major systems of explanatory concepts: the personality system, the perceived environment system and the behaviour system. In each system, there is a set of variables that determines the degree of risk of engaging in problem behaviours by the adolescent. The systems and their related variables are discussed in the review of literature chapter. Jessor (1982:298) stated that the "occurrence of

problem behaviour for any adolescent is determined by the combined risk of proneness across these three explanatory systems".

In drug and alcohol education, the psychosocial factors that influence problem behaviours need to be considered. Jessor's problem behaviour theory model examines the variables that are associated with adolescent engagement in problem behaviours. By understanding these factors, educators can then begin to develop effective health programs.

Specific Background

Alcohol and drug abuse is recognized as a major threat to the Native people in Canada. The problem is so great, that government agencies and social services are now concerned with the adolescent Native population. In the last decade, the trend among Native youth has been toward a younger age of onset and increasing usage of drugs and chemical substances (Weibel-Orlando, 1984). The Medical Services Branch (1982) reported "about one third of Canada's Native population between the ages and 16 and 35 often use drug and alcohol together" and "the use of glue and chemical substances is highest among Native children under the age of 15". Weibel-Orlando (1982) stated that the reduction of drug use and its medical, economic and psychological effects can only be accomplished if "massive attitudinal

interventions are initiated at familial and community levels".
(Weibel-Orlando, 1982:330).

Adolescents in a Native community face common types of social problems. The use of drugs and alcohol stems from the loss of their own culture and from the pressures to acculturate into a white society. The adult male is a victim of forced cultural changes. His role as hunter and warrior for his tribe has been discontinued and now he is faced with unemployment and idleness (Frogg, 1981). Unfortunately, in the native society today, alcohol and the use of drugs is socially acceptable. Drinking in particular, receives approval from the people as a normal part of life. Alcohol in most cases, is not viewed as a drug and is considered as a shared recreational activity (Weible-Orlando, 1984). Similarly, the young Natives have lost their traditional way of socializing through activities such as cooking and hunting, and now drugs and alcohol serve this purpose (Schinke et al., 1986). There are several environmental factors that are associated with the use of drugs and alcohol by Native adolescents. Poverty is a serious problem since the average income of Native families is below that of the rest of the nation. Unemployment is common. The abuse of alcohol has caused a disintegration of the family unit resulting in parental alcohol abuse, unstable home conditions and broken families. In isolated communities, boredom is a concern since recreational activities are limited for adolescents. Peer pressure to conform to the group is strong. Suicides and deaths due to alcohol related accidents

are high among the Native population. The Native adolescent is turning to drugs and alcohol in response to the stresses of the community environment in which he lives. The drug and alcohol issue cannot be addressed as an isolated phenomenon. Instead it must be seen as only part of the social problems facing adolescents. Government programs must take on a holistic approach to the Native drug problem.

Between 1973 and 1982, the Canadian Government established the National Native Alcohol Abuse Program (NNAAP) as a pilot program to assist Indian and Inuit communities with alcohol abuse. Since then, there is a greater awareness that other drugs and chemicals are causing serious health problems. In 1982, the Canadian Government established a permanent program called the National Native Alcohol and Drug Abuse Program (NNADAP). This program which offers treatment and prevention projects is part of other government programs such as social assistance programs and family and child care counselling which must address the root causes of alcohol and drug abuse (Medical Services Branch, 1982, 1983). In 1984, the Four Worlds Development Project was established to eliminate alcohol and drug abuse from Native communities by the year 2000. This project was organized by Native Leaders to address the root causes of alcohol and drug abuse. The project emphasizes the need to work with children in Native communities and establish a curriculum in schools to educate children about drugs and alcohol before they are parents. The school must act as a learning center for the community to promote human development and health. The school program must not only

educate students but must reach out into families and into the economic and cultural life of the community (Alcohol Foundation of Manitoba, 1984). In 1986, the Northwest Territories Government launched a new program to teach students about the hazards of alcohol and drug abuse. The program intends to show the students the link between alcohol and drug abuse and community problems like family abuse, suicide and delinquency (Medical Services Branch, 1985).

In the last decade, concern about the alcohol and drug problem of the Native population, especially the young people has been raised. Government programs are attempting to take on a holistic approach to the problem and deal with the root causes of drugs and alcohol abuse. The school plays an extremely important role in teaching children the hazards of drugs and alcohol and how their abuse affects society. However, unless other community programs assist the schools in the vital task, the goal of eliminating the Native problem will not be accomplished. Education about drugs is only part of the many factors that influence adolescent drug use.

Problem Statement

The purpose of the study was to determine the relationship between the psychosocial factors of ethnicity, gender, grade, peer influence, school self-perception and education/knowledge, and drug use of school students in the Northwest Territories.

Research Hypotheses

1. There is a relationship between school students' alcohol and drug use and ethnicity. (Dene, Inuit, Non-Native, Metis).
2. There is a difference in alcohol and drug use among school students as a function of gender.
3. There is a difference in alcohol and drug use among school students as a function of grade.
4. There is a relationship between peer influence and alcohol and drug use among school students.
5. There is a relationship between school self-perception and alcohol and drug use among school students.
6. There is a relationship between school students' alcohol and drug use and the amount of drug and alcohol knowledge they possess.

Limitations

Students were required to answer a self-report style of questionnaire. To encourage students to answer the questions honestly,

they were reassured that their responses to the questions would be kept anonymous.

The questionnaire was a teacher directed questionnaire in which the teacher could interpret the meaning of the questions to the students. Standardization of administering the questionnaire is therefore not consistent since more than one person was involved in giving the questionnaire.

The chi square statistic was used to analyze the data. Caution is needed in interpreting the results where the chi square may be invalid. In order for the chi square to be considered valid, the cells must have five or more expected cell values. In the cases where the chi square may be invalid, the cells have a frequency of less than five values therefore caution is needed in interpreting these results.

The grade 5-6 sample is representative of the ethnic proportions of the target population. The grade 5-6 sample is 50% of the total population of the grade 5 enrollment. Therefore, the grade 5-6 sample is a representative sample. In the grade 7-8 sample, the Inuit and Metis groups are representative of the target population while the Dene and Non-Native groups have a lower representation of the target population. The grade 7-8 sample is 27.2% of the total population of grade 8 enrollment.

CHAPTER II

REVIEW OF LITERATURE

The use and misuse of drugs among adolescents has received increased research attention in the last few years but research pertaining to the native drug problem is still limited. In order to develop a drug treatment program for an ethnic group such as the population in the Northwest Territories, the psychosocial factors that are associated with excessive drug use need to be defined. The first section of the literature review will discuss problem behaviour theory. The second section of the review will examine the psychosocial factors related to drug use under the following subsections: ethnicity, gender, grade, peer influence, school self-perception and education/knowledge.

Problem Behaviour Theory

Since drug use has become increasingly common among adolescents, health development programs are imperative. Problem behaviour theory is one of the models that has been used for adolescent program development.

Jessor (1982:296) stated, "that engaging in problem behaviour is part of normal adolescent development and plays a major role in the process of transition to young adulthood". Problem behaviour refers to those behaviours that are inappropriate by society's standards and when they occur, society elicits a control response to the behaviour (Jessor, 1982). In dealing with adolescent problem behaviour, it should be understood that there is a clustering of behaviours within an individual. This would suggest that prevention programs must emphasize the syndrome nature of adolescent problem behaviour and not one specific problem behaviour (Jessor, 1982).

Problem behaviour theory may be defined as "the social-psychological relationships that obtain within and between - each of 3 major systems - the personality system, the perceived environment system, and the behaviour system" (Jessor and Jessor, 1977:19). Within each of these systems, there are psychosocial factors that are interrelated and organized so as to generate a "dynamic state called proneness" (Metarazzo, J. et al., 1984), that determines the likelihood of the occurrence or non-occurrence of problem behaviour. The patterning of these psychosocial factors within each of the systems specifies the degree of proneness toward engaging in problem behaviour (Jessor, 1982). Therefore, the likelihood of the occurrence of problem behaviours for the adolescent is determined by the proneness across the personality system, the perceived environment system and the behaviour system (Jessor, 1982). Jessor (1982:298) stated that "in the

personality system, proneness to problem behaviour implies higher value on independence, lower value on academic achievement, lower expectations for academic achievement, greater social criticism, greater alienation, greater tolerance of deviance and lower religiosity". The more an adolescent displays these personality characteristics the more likely the adolescent will engage in problem behaviour (Jessor and Jessor, 1977). Perry and Murray (1982:309) stated that personality factors correlate with many areas of adolescent health behaviour. "The adolescent's personal values, future orientation and degree of personal self-management all affect general behavioural choices."

The second major system of Jessor's problem behaviour theory is the perceived environment. Proneness to problem behaviour in the perceived environment includes "low parental support and controls, low peer controls, low compatibility between parent and peer expectations, low parental as compared to peer influence, low parental disapproval of problem behaviour and high peer models for and approval of engaging in problem behaviour" (Jessor, 1982:298). Perry and Murray (1982) stated that how the adolescent viewed the environment is as important as the actual behaviour exhibited. For example, many young adolescents may overestimate the use of cigarettes among their peer group making smoking appear to be more prevalent than it really is. Therefore, it is important to plan adolescent health strategies that adjust their perceptions of the environment to match actual behaviours.

The third major system of problem behaviour theory is the behaviour system. Jessor (1982:298) stated "that proneness to problem

behaviour in the behaviour system includes high involvement in other problem behaviours and low involvement in conventional behaviour". Perry and Murray (1982) stated that in the behaviour system, the adolescent is developing different behaviours in response to the environment. In the transition years, the adolescent adds behaviours to his repertoire and it is the task of health programs to encourage healthy behaviour patterns.

In conclusion, problem behaviour theory includes three major systems: the personality system, the perceived environment and the behaviour system. Within each of these systems, there are psychosocial factors that contribute to the occurrence of problem behaviour. The interrelatedness of the psychosocial factors can be seen in Figure 1. (Jessor and Jessor, 1977:38). Jessor (1982) stated that there is an interrelated cluster of behaviours and that behaviours tend to co-occur within the same individual. He also stated that "the likelihood of occurrence of problem behaviour for any adolescent is determined by the combined risk or proneness across these three explanatory systems" (Jessor, 1982:298).

Psychosocial Factors

Jessor's problem behaviour theory identifies several psychosocial factors related to the occurrence of problem behaviours. This section will discuss the following factors and their relationship to drug use:

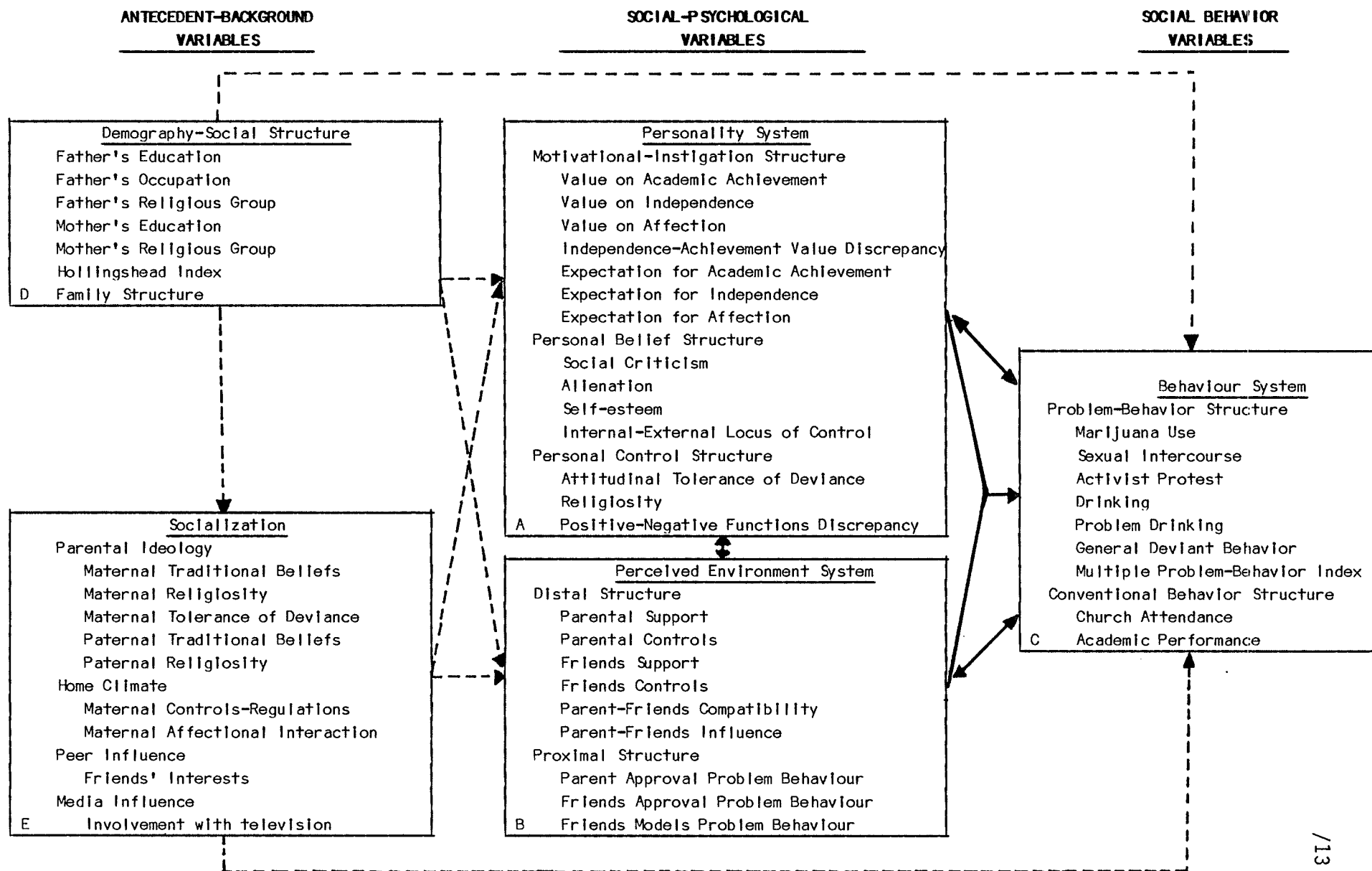


Figure 1 The conceptual structure of problem behavior theory.

Source: Jessor and Jessor (1977).

ethnicity, gender, grade, peer influence, school self-perception and education/knowledge.

Ethnicity. This section will review the literature related to Native and White adolescent drug and alcohol use.

Alcohol and drug abuse is a major problem for the Native population. Statistics reported by the Provincial Native Action Committee Alberta (1974:1), reported that the life expectancy of Native Alcoholic drinkers was approximately 30 to 40 years less than the national average. The Committee also stated that "the Native alcoholic person suffers a disproportionately higher number of violent deaths and diseases; accidental deaths is four times and suicides is three times that of Whites". May (1982) reported statistics of the Native population in the United States. He stated that the Native population was growing rapidly with the median age of Natives at 19.4 years as compared to the general population, which is 29 years. He also reported that most Natives, especially reservation Natives, have income levels far below the national average and that the median education level of Natives was quite low. Schinke et al. (1985:213) reported statistics related to substance abuse. "Terminal liver cirrhosis occurs 14.5 times more often among Indians than among non-Indians for 25 to 35 year olds". Schinke et al. (1985) also stated that Native traffic fatalities due to drug and alcohol occur at 3.2 times the

national average and that the crime rate for Natives as a result of alcohol and drug abuse is 8 and 20 times more frequent than for Whites.

Weibel-Orlando (1984:319) documented literature that found high rates of alcohol, inhalant and drug use among American Indian Youth. They found that alcohol and inhalants were used at higher rates among American Indian youth than among Whites. They cited a study by Cockerham (1977), which found that "Indians were more likely to be involved with alcohol, marijuana and hard drugs, tended to get drunk more often, and to approve of using drugs other than alcohol" (Weibel-Orlando 1984:319). They also cited a study by Jensen (1977) and one by Johnston (1979) which stated that Indian youth have higher use rates for inhalants, marijuana and alcohol than non-Indians.

The Provincial Native Action Committee Alberta (1974:4) reported statistically on the magnitude of the Native alcohol problem stating that "Native alcoholism and alcohol abuse are 10-15 times that of the national average".

Brod (1975) in a review of literature found that Indians drink to get drunk and suffer alcoholic symptoms with far greater frequency than any other American group.

Cockerham (1977) studied White and American Indians in regard to alcohol and use of other drugs and found that both groups approved of drinking but Indians tended to get drunk more often. Indians also tended to use other drugs besides alcohol more often than Whites.

May (1982) reviewed prevalence studies among Indians. He found that alcohol, marijuana and inhalant use are generally reported to be higher by Indian youth as compared to others in the United States.

Porter (1973) found in a Dallas study that a higher percentage of Natives than of any other racial group had used at least one other drug other than alcohol or tobacco.

Bellegarde (1977) studied the drug use among the Saskatchewan Indian youth and found the only area of higher incidence of usage by Indian youth is inhalants, between 22 percent - 55 percent above national averages.

While these studies indicated a higher use of drugs and alcohol by Natives as compared to Whites, the next two studies found no differences between the two groups.

Barnes (1980) studied drug use in northern communities and compared Indians, Metis and White youth. He found no significant group difference in the prevalence of sniffing. His study showed that white students were more likely to report use of alcohol and marijuana while Indian students were more likely to report use of tobacco.

Liban and Smart (1979) criticized studies that compare Indian and White youth because frequently these studies involve Indian youth on reservations, and comparisons with non-Indian youth overlook social and economic factors that may influence alcohol and drug use. Barnes (1980) also indicated that caution must be taken in interpreting differences in ethnic prevalence of drug use since scores could reflect differences in social assets and availability of different drugs in

different communities. Liban and Smart (1979:1) stated that "there have been few comparative studies of young Indians living off reservations and none which are recent in Canada". Liban and Smart (1979) studied Ontario students in a matched comparison of Indian and non-Indian students from urban areas. The sample population was of the same socio-economic background. Results showed that Indian students are similar to their peers in their use of alcohol and other drugs.

The last two studies compare the personality and socialization effects of Natives and Whites.

Forslund (1978) compared Native and White youth on their functions for drinking. The questionnaire was divided into three categories: positive-social, personal-effect and experimental. He found that the functions of drinking were quite similar for Native and White youth.

Wingert and Fifield (1985) examined the characteristics of Native American users of inhalants. They found that Native American adolescent users of inhalants have similar personality, academic and social characteristics as the general population.

In summary, alcohol and inhalant use is higher among Native adolescents as compared to White youth. Caution must be taken in interpreting the results if the sample population is not of the same socio-economic background. Statistics indicate that deaths, diseases and traffic fatalities due to alcohol and substance abuse is higher among Natives than Whites. Functions served by drinking and characteristics of Native users of inhalents is similar to that of White adolescents.

Gender. This section will review the differences between male and female drug and alcohol use.

The following studies found that males exceed females in drug and alcohol use.

Use of all drugs, that is: alcohol, tobacco, glue, marijuana and solvent inhalants is more common among boys (Gossett et al., 1971;

Johnson et al., 1971; Smart et al., 1971; Rosenberg et al., 1974). With respect to Native literature, Bellegarde et al. (1977), in his study of Saskatchewan Indian students found similar results with the addition of snuff and chewing tobacco.

Brozovsky and Winkler (1965) and Stybel et al. (1976) found that sniffing was predominantly a male practice.

Forslund and Gustafson (1970) and Bachman et al. (1981) concluded that a higher proportion of boys than girls use alcohol. Wechsler and Thum (1973) found similar results but at the junior high level only. Donovan and Jessor (1978) reported that a larger percentage of males than females were problem drinkers. Galli (1974) found that for marijuana, beer and hard liquor, usage for males was significantly higher. Cockerham (1974) studied Indian students at the junior high level and found that boys appeared to start regular drinking at earlier ages than girls.

The use of smokeless tobacco or snuff has increased in the 1980's and is a habit practised predominately by boys. It has become socially acceptable to chew tobacco as it reflects a masculine image. Celebrity

sports figures and television advertisements are influencing young boys by equating the "macho" type individual with smokeless tobacco (Christen et al., 1982; Greer and Poulson, 1983; Belanger and Poulson, 1983; Schafer et al., 1985).

The next studies indicate that there are no sex differences with respect to drug and alcohol use.

Porter et al. (1973) surveyed students in Alaska. He found the usage rates for alcohol, tobacco, marijuana and solvents to be approximately equal for boys and girls. Galli (1974) found that for most drugs except marijuana, beer and hard liquor, there was no relationship between the sex of the user and the drug usage.

Wechsler and Thum (1973) reported no significant differences between males and females in the use of alcohol at the senior high levels.

Rosenberg et al. (1974) found no sex differences with the use of cigarettes.

Literature related specifically to Natives is reported by Barnes (1980) and Cockerham (1974). Barnes (1980) studied the drug use among Indian, Metis and White students and found no differences between males and females in the use of alcohol, tobacco, marijuana and solvents. Cockerham (1974) stated that there were no differences between boys and girls in frequency of drinking or in the number of times getting drunk.

The last three studies indicate that females exceed males only in using tobacco.

Rosenberg et al. (1974) suggested that there might be a preference for certain drugs by sex. He found that females exceed males only in the use of amphetamines and barbituates.

Bachman et al. (1981) reviewed five national surveys between 1975 and 1979 and found that females exceed males for cigarette smoking. Similarly, Brown et al. (1980), Botvin (1980) and Morrison (1980) also reported a higher prevalence of smoking in adolescent girls than in boys. Bellegarde et al. (1977) in studying Indian youth in Saskatchewan, reported a higher incidence of cigarette smoking among females than males.

In summary, most of the literature tends to support the claim that males exceed females in the use of most drugs and alcohol. However, female drug use is showing larger changes than male drug use and the recent trend seems to indicate female drug use approaching that of male use (Rosenberg et al., 1974). Changes in traditional values have allowed females to broaden their experiences. Differences in drug use patterns between males and females may remain only in areas where traditional values are maintained (Rosenberg et al., 1974). It appears that females have already exceeded males in cigarette smoking. The Native literature is limited therefore definite conclusions cannot be stated at this time.

Grade. This section will examine the grade-related trends in alcohol and drug use.

Solvent abuse appears to be prevalent in early adolescence and decreases with age and/or grade (Barnes, 1980; Postl, 1975; Boeckx et al., 1977; AFM Library, 1976). Boeckx et al. (1977) and Postl (1975) studied Indian children in isolated communities in Manitoba and found gasoline sniffing to be common at ages 10-14 years with incidences of sniffing occurring as young as 4 years old and as late as 17 years old.

With respect to the use of glue and inhalants, Johnson et al. (1971) stated that use of inhalents decreased with age. Smart et al. (1971) and Whitehead (1971) found that the use of glue peaks at grade 9 while later literature indicated that the peak rate for glue was grade 6 (Unpublished document AFM Library, 1976). Brozovsky and Winkler (1965) and Glasser and Massengale (1962) stated that glue sniffing was more prevalent in early and middle adolescence and that the age range of use was 9-17 years with the median age being 13 years. Kramer (1971) found that adolescents had their first experience with glue at the median age of 15 years. Johnson (1971) observed that use of inhalants occurred in the 10-14 year age range.

Smokeless tobacco or snuff is on the increase by adolescents and children (Christen et al., 1982; Belanger and Poulson, 1983; Bailey, 1985). Greer and Poulson (1983) studied 1,119 students in grades 9 to 12 and found that 117 were users of smokeless tobacco. These students

had been using snuff regularly for the past 2 years. Schafer et al. (1985) surveyed 5,392 students in junior and senior high school and found that 9 percent used snuff and they started the habit before the age of 12.

With regard to cigarette smoking, McAlister et al. (1979), Evans et al. (1978), Botvin (1980) and Brown et al. (1980) found that junior high is a critical period for adolescent to start smoking and that the average age for smoking to occur is 12 to 13 years. The following studies will discuss the relationship between age and drugs in general.

Galli (1974) stated that every drug is being used at every grade level but that the sharpest increase in drug use occurs after grade 7. He also found that the heaviest usage of drugs occurs in grades 9 and 10 and decreases in grades 11 and 12. Similarly, Whitehead (1971) found an increase in drug usage in grades 7 to 9 and from 9 to 11 with a decrease after grade 11. Johnson et al. (1971) and Smart et al. (1971) stated that alcohol and tobacco increase with age. With respect to Native literature, Barnes (1980) and Bellegarde et al. (1977) found similar results to the other studies in that alcohol, tobacco and marijuana increases with age and drug use in general occurs in grades 6 to 11.

With regard to alcohol and age, Wechsler and Thum (1973) and Lerner et al. (1974) stated that the onset of drinking occurred at age 13 to 14 years, primarily before grade 10. However, a later study by

Jessor (1977) indicated the first experiences with drinking to occur by grade 4. The Native literature appears to follow similar trends. Kim (1972) in studying the Saskatchewan Indian youth, found their first experiences with alcohol to be in their early teens. Later studies by Liban and Smart (1979) and Weibel-Orlando (1984) stated that the onset of drinking is lowering among Natives with a large percentage of youth already using alcohol by grade 6.

In conclusion, solvent abuse, glue sniffing and use of inhalants are most prevalent in early adolescence and use decreased with age. The median age is 13 years and the peak rate occurs at grade 6 according to the most recent literature. The use of smokeless tobacco or snuff occurs before age 12 and continues throughout junior and senior high. Cigarette smoking begins in junior high at 12 to 13 years of age. Use of drugs in general increases after grade 7 with the heaviest usage occurring in grades 9 and 10. Use of drugs decreases after grade 11 and 12. Tobacco and alcohol continue to increase with age. With the use of alcohol, the age of onset of drinking appears to be lowering. The Native literature seems to indicate a trend towards a younger age of onset of drug use. Use of drugs in general by the Indian population seems to comply with the previous literature. The onset of drinking occurs in grade 6 for Indian youth and the use of solvents occurs at age 10-14 years. In some isolated Indian communities it has been reported that the use of solvents is occurring as early as age 4.

Peer Influence. This section will discuss the relationship between peer influence and drug use.

The authors of the following studies are in total agreement that peer influence plays an important role in the use of drugs and alcohol among adolescents.

Peer pressure is an important predictor of adolescent behaviour and drug use (Unpublished document AFM Library, 1976; Weitman et al., 1974; Schafer et al., 1985). Gossett et al. (1971) found that the most common source of illicit drugs was from adolescent peers.

Evans (1976); Roemild and Perry (1980); McAlister (1980); Brown et al. (1980); and Botvin (1980) found that the main factor influencing childrens' decisions to smoke was peer pressure.

Brozovsky and Winkler (1965) and Clements and Simpson (1978) stated that engaging in glue sniffing was based on peer pressure. Glue sniffing is practised in groups or gangs usually of the same sex. Stybel et al. (1976) in examining solvent sniffing stated that it was difficult to stop sniffing because of the peer pressure and that sniffing occurred as a social activity.

Galli (1974) and Lerner et al. (1974) found that by grade 12 as adolescents became more independent and could withstand the pressure from their friends, there was a decline in the use of drugs. At the grade 9 and 10 level, adolescents want to be part of the group and peer pressure is heavy.

The use of alcohol is attributed more to the influence of friends of the adolescent than to their parents. Since the peer group has been more important to the adolescent, ties with the family have been loosened. Therefore, the probability of drinking increased with the number of friends who drink (Forslund and Gustafson, 1970; Wechsler and Thum, 1973; Donovan and Jessor, 1978).

The findings for Native literature are similar to the above studies. With the pressure to acculturate, peer influence is an important factor in the use of alcohol and drugs. Traditionally, Indian youth had activities such as cooking and hunting as means for social contact. Now drinking provides social interaction (Fixico, 1982; Schinke et al., 1985; Weibel-Orlando, 1984; Forslund, 1978). Barnes (1980) found a relationship between sniffing among Indian youth and the use of alcohol and other drugs. If an adolescent's friend sniffed, then that adolescent was more likely to be involved with alcohol, tobacco and sniff. Kim (1972) found that the Indian drinker appeared to be socially acceptable and was not subjected to ostracism by his peers. May (1982) found that in the Indian culture, the peer group defined alcohol and inhalants as acceptable but that the use of other drugs was experimental behaviour. Scottstaedt and Bjork (1977) studied an Indian boarding house environment while Scott (1974) observed a small isolated community. In both of these studies, where the Indian population is small and the environment is confined, sniffing is a serious problem controlled by peer pressure.

In summary, peer pressure is an important factor in the use of drugs and alcohol. The Native literature is also in agreement with this statement.

School self-perception. This section will discuss the relationship between the use of drugs and school self-perception.

As previously discussed, problem behaviour theory includes three major systems, the first of which is the personality system. An adolescent is more prone to problem behaviour if he displays the following traits within the personality system: lower value on academic achievement and lower expectations for academic achievement. (Jessor and Jessor, 1975; Jessor and Jessor, 1977; Donovan and Jessor, 1978; Jessor et al., 1980).

The more academically oriented students appear to be less involved with the use of drugs and alcohol, and also place more value on academic achievement. There is an inverse relationship between academic success and drug use. For example, academic achievement declines with the onset of becoming a drinker. The following studies substantiate these claims (Jessor and Jessor, 1975; Jessor and Jessor, 1977; Donovan and Jessor, 1978; Jessor et al., 1980; Galli, 1974; Bachman et al., 1981). Donovan and Jessor (1978) found that the pattern for marijuana use is almost identical to the pattern that accounts for problem drinking.

Newman (1970) studied adolescent cigarette smokers and observed a specific personality syndrome related to school self-perception. He found that the cigarette smoker is less successful in a variety of ways and that the adolescent uses smoking as a form of compensation providing a feeling of achievement. Generally, the adolescent smoker does not meet expectations at school, is more likely to fail course work and often takes less demanding courses. McAlister et al. (1970) and Botvin (1980) also found a negative association between academic achievement and smoking.

Wechsler and Thum (1973) and Smart et al. (1971) stated that heavy drinkers and drug users had lower grades in school.

Bachman et al. (1981) and Wechsler and Thum (1973) found that college and career plans negatively correlated with drug use.

The Native literature related to school self-acceptance agrees with the studies above. Barnes (1980) found that there was a negative association with school self-acceptance and the use of alcohol, tobacco, drugs and gasoline sniffing. Wiebel-Orlando (1984) found that Indian youth who are involved heavily with drugs have a negative attitude towards school and a low expectancy of meeting life's goals in general. Wingert and Fifield (1985) in studying Indian adolescents found that academic achievement, as measured by grade point averages was lower among drug users than non-users. He also found that inhalant users tend to have lower self-esteem. Scott (1974) reported that on

the Shamatawa reserve, teachers would often observe fluctuations in school performance and changes in behaviour due to Indian children sniffing gasoline.

In conclusion, school self-perception as measured by academic achievement, grades and college and career plans is lower in adolescents who use drugs. Therefore, the most academically oriented students are less involved with drugs. The Native literature on school self-perception is similar.

Education/Knowledge. This section will discuss the effect of drug education programs on adolescent drug use.

Despite the fact that schools are attempting to introduce drug education programs, the prevalence of drug use among adolescents is still on the increase (Tennant et al., 1973). Porter et al. (1973) studied 15,634 students, in Anchorage, Alaska. The students were questioned about the usefulness and the amount of drug information presently available to them in the schools. Sixty-one percent of the students felt that the drug information was not useful. The results showed that Anchorage had a higher rate of drug use in 1971 than did students in Dallas, who participated in a similar survey in 1969.

Galli (1974) studied 500 students in grades 4 to 12 and found a limited amount of drug education available to students. Those students with formal drug education still had high rates of drug use.

Thompson (1978) reviewed smoking education surveys from 1960-1976. He found that most attempts at smoking education programs had little success in deterring smoking in adolescents. He found that multimedia programs had no affect on the prevalence of smoking. In most studies involving peer counselling, there was no evidence of follow-up studies. Thompson found that in the evaluation of a two year study conducted in Saskatoon, using peer counselling, students were smoking at the same rates as before the introduction of the program. Studies using various teaching methods such as group discussion, psychological persuasion, information lectures, teacher dominated lectures and individual study were ineffective in changing smoking behaviour and were often not evaluated.

Tennant et al. (1973) examined 4 studies involving drug education and found that information given to high school students did not decrease the use of drugs.

The preceeding studies showed that drug education programs had little impact on decreasing the use of drugs among adolescents. The following studies will show that specific programs have been effective in decreasing drug use and changing attitudes towards drugs.

Kline (1972) used the multimedia drug education program on students at the junior high level which consisted of an audiovisual presentation plus a two week follow-up activity program. This method appeared to be successful in decreasing the use of drugs. Twenty-five percent of the students stopped using drugs because of what they had

learned and 49 percent of students decided not to experiment with drugs at all.

Tennant et al. (1973) found that information given at the grade 5 and 6 level by a trained teacher, positively changed attitudes towards drug use. He indicated that drug education should be started at the elementary level where students can still be influenced towards health behaviours.

Hamburg (1972) studied students in grades 7 to 12 and found that peer counselling was very effective in changing attitudes towards drug use. However, these results were from the pilot phase of his study. For further program development, an evaluation was needed as well as a follow-up study. Similarly, McAlister et al. (1979) studied grade 6 and 7 students and found that a peer leadership curriculum was a successful approach to drug education.

The following studies report on newer smoking prevention programs which are based on social psychological theories. These programs attempt to provide students with decision making and social skills that will help them resist the pressure to become a smoker (Flay et al., 1983).

McAlister et al. (1980) conducted a longitudinal study on the onset and prevention of smoking, alcohol and drug abuse in 2 junior high schools. Students were trained over 2 years to resist social pressures to use tobacco, alcohol and drugs. Results indicated that students

began smoking at half the rate as those students not in the program. Also, the frequency of alcohol and marijuana use was less for the trained students as compared to the untrained students.

Evans et al. (1978) used nonsmoking peers on film to give students information on the three sources of social pressure that influence adolescents to start smoking: peers, models of parents smoking and media. Interventions such as modelling, identification, and persuasive communication techniques were developed to train students to cope with these pressures. Evans studied 750 students in grade 7 and found the rates of onset of smoking to be significantly lower.

Botvin et al. (1980) introduced the Life Skills Training Program (LST). This program consisted of a 10-session psychological approach to the prevention of smoking and was tested on students in grades 8 to 10. LST aimed to teach students to resist direct social pressures to smoke. The program utilized group discussion, modelling and behaviour rehearsal. Results showed significantly fewer new smokers.

The most recent work being conducted on the prevention of smoking are the Waterloo Studies. In 1979, the University of Waterloo began a smoking prevention program called the Waterloo Smoking Prevention Program (WSPP). The WSPP is an ongoing series of controlled trials designed to evaluate an effective smoking prevention curriculum. The program is based on the social influences approach to prevention. The first phase of the program (WSPP 1), a program development phase, began in 1979 and was completed in 1982. In this study, "6th grade children

in 22 schools received either a social influences smoking prevention program or routine health education. The social influences program was designed to teach youth about peer, parent and media influences affecting smoking onset and to provide them with skills in resisting these influences" (Best et al., 1984:257). The results of WSPP 1 indicated that "school programs that address social influences on smoking onset can effectively prevent increased experimentation during preadolescent years" (Best et al., 1984:266). The results also suggested an immediate effect on those with smoking experience prior to taking part in the program. The second phase (WSPP 2) began in 1982 and was completed in 1985. WSPP 2 studied 66 schools in Southern Ontario. The main objectives of WSPP 2 were to evaluate WSPP 1 and also to determine the environment variables that effect program impact and the smoking onset process. Each school was given a school risk score which was based on the proportion of Grade 8s' smoking, teachers' smoking and a socio-economic score for the school. The results indicated similar findings to WSPP 1 in that the impact of curriculum on students' smoking behaviour was significant. The WSPP 2 reported the significance of best friends, parents and siblings on smoking behaviour. WSPP 2 also stated that the students in a school with a high risk score are more likely to be smokers than students in a low risk school. The University of Waterloo plans to conduct follow-up studies which will continue through 1990 on the prevention of smoking.

There is some evidence that increased drug information will lead to an increase in drug use. Fejer and Smart (1973) studied 4,700

students in Toronto. The study showed that increasing knowledge can change attitudes and behaviour but not always in the desired direction that the program intended. Results indicated that knowledge scores were higher among users of alcohol, tobacco and marijuana than the non-users. Knowledge and permissive attitudes towards drugs increased with grade levels. Users, with the exception of glue and solvents had higher knowledge scores and more permissive attitudes than non-users.

Tennant et al. (1973) stated that drug education at the high school level does not decrease drug use and may even have a negative effect on student use. Similarly, McAlister et al. (1979) stated that poorly run drug education programs may negatively influence drug use.

In conclusion, traditional drug education programs have attempted to prevent adolescents from using drugs by giving them factual information on the dangers of drug use and by emphasizing the long term health risks associated with using drugs. These programs have been successful in changing students' knowledge and attitudes about drugs but they have not succeeded in changing behaviour. Those studies that report success in decreasing drug use by traditional methods (Kline, 1972; Tennant et al., 1973), are isolated studies which may have been successful because the programs were suitable to their specific school environment. In smoking education, programs that consider the social psychological factors have been more successful in preventing smoking. The work by Evans et al. (1978), Botvin et al. (1980), and the Waterloo Studies (1979), utilize methods whereby students are taught to resist social pressures to smoke. These programs are experiencing positive

results. It would appear that the social psychological method for drug education could be a more suitable type of program. More research is required in using this approach.

CHAPTER III

METHODS AND PROCEDURES

Research Design

This investigation was a descriptive study of the psychosocial correlates of alcohol and drug use of students in Grades 5 to 8 in the Northwest Territories. Students from 51 of the 73 schools in the Northwest Territories were surveyed with a total sample size of 1,073. The sample was a stratified non random sample of schools with students in grades 5 and 6, and grades 7 and 8 from the six educational regions in the Northwest Territories: Yellowknife, Inuvik, Fort Smith, Kitikmeot, Baffin and Keewatin, and included a representative sample of four ethnic groups: the Inuit, the Dene, the Metis and the Non-Native group. The sample consisted of 748 grade 5 and 6 students and 325 grade 7 and 8 students. The original focus of the study was grades 5 and 8. However, some classrooms were multigrade classrooms of grade 5 and 6 students and also 7 and 8 students. For the purpose of this investigation, it was decided to group all the grades 5 and 6 students as grade 5-6 and the grades 7 and 8 students as grade 7-8.

TABLE 1
DEMOGRAPHICS

	MALE GRADE 5&6	FEMALE GRADE 5&6	MALE GRADE 7&8	FEMALE GRADE 7&8
NON-NATIVE	86	84	29	33
DENE	54	51	20	32
METIS	33	29	22	27
INUIT	203	187	82	74
TOTAL	376	351	153	166

Table 1 displays the gender, grade and ethnicity of the subjects. The sample contained 387 males in grade 5-6 and 349 females in grade 5-6. In grade 7-8, there were 155 males and 170 females. The number of males and females was approximately the same for each grade. The largest ethnic background of students regardless of grade or gender was the Inuit.

At the grade 5-6 level, the sample population is representative of the grade 5-6 population. The total population of grade 5 students in the Northwest Territories is 1,229 students. By ethnic groups, the grade 5 population of the Northwest Territories consists of 17.1% Dene, 49.1% Inuit, 26.3% Non-Native and 7.3% Metis while the sample population of grade 5-6 students contained 14.1% Dene, 54.3% Inuit, 23.2% Non-Native and 8.4% Metis. The 643 grade 5 students is more than 50% of the total enrollment.

of grade 5 students in the Northwest Territories. The sample grade 5-6 is representative of the ethnic proportions of the grade 5 population. The sample is quite representative of the grade 5 population.

At the grade 8 level, the total population was 715 students, while the sample population was 325 grade 7-8 students. The sample consisted of 103 grade 7 students and 222 grade 8 students. The grade 8 students sample is 30% of the total population of the grade 8 enrollment in the Northwest Territories. By ethnic group, the grade 7-8 sample contains Inuit (48.6%) and Metis (15.1%) which are representative of the target population (Inuit-35.5% and Metis-12.6%). However, in the sample population the Dene (16.9%) and Non-Native (19.4%) groups have a lower percentage of representation as compared to the target population (Dene-28.8% and Non-Native-39.2%).

While the two samples, grade 5-6 and 7-8 are combined grades, the diversity in age groups at each grade justify combining them. Since in all cases the students from grades 6 and 7 come from the same schools as the grade 5 and 8, it is safe to assume that their ethnic composition is similar.

Instrument Design

Two questionnaires were designed and administered; one for grades 5-6 and one for grades 7-8 to collect data on students' alcohol and drug use and six variables. These variables were ethnicity, gender, grade, peer influence, school self-perception and alcohol and drug education/knowledge. Each questionnaire was titled, "The Alcohol and Other Drugs Survey (N.W.T.)", and was divided into two sections.

Section I of each questionnaire had questions relating to the student's background, perceptions about self, alcohol and drug use behaviours, leisure activities and influences of friends and family (See Appendix A). Section I was the same for both grades 5-6 and 7-8.

The first three variables - ethnicity, gender and grade were requested as demographic information in Section I of each questionnaire. (Appendix A) Question 1 refers to gender, question 3 refers to grade and question 4 refers to ethnicity.

A measure of peer influence was recorded as a sum of the scores for questions 77-86 in Section I (Appendix A). In these questions, a "yes" response was scored as "1" and a "no" response was scored as "0". A summed score of "5-10" was arbitrarily selected as a high peer influence score while a summed score of "0-5" was selected as a low peer influence score.

The variable of school self-perception was measured as a sum of the scores for questions 12-24 in Section I (See Appendix A). Responses for these questions were "never", "some of the time" and "most of the time". Questions 15, 16, 17, 21 and 22 were scored as follows: "never" as "3", "some of the time" as "2" and "most of the time" as "1". Questions 12, 13, 14, 18, 19, 20, 23, 24 were scored as follows: "never" as "1", "some of the time" as "2" and "most of the time" as "3". A summed score of "27 or greater" was arbitrarily selected as a high school self-perception score while a summed score of "26 or less" was selected as a low school self-perception score.

Drug and alcohol use was measured by students' responses to questions 43, 44, 45, 46, 52 and 71 individually in Section I. Students were asked

to respond to their frequency of drug use for each of the following: alcohol-question 43, marijuana-question 44, solvents-question 45, cocaine-question 46, chewing tobacco-question 52 and cigarettes-question 71. There were 6 categories describing frequency of alcohol and drug use which were scored as follows: "Everyday" as "6", "2-3 times per week" as "5", "once a week" as "4", "2-3 times per month" as "3", "once a month" as "2" and "never" as "1", with the exception of question 71 (How many cigarettes do you smoke in a week) which was scored as follows: "20 or more" as "6", "10-20" as "5", "less than 10" as "4", and do not use as "3".

Section I of the questionnaire was examined for content validity at two levels by panels of experts. The first level compared questions in Section I to similar questions from questionnaires by Jessor and Jessor (1977) and Barnes (1980). The demographic questions for ethnicity, gender and grade were similar to those used by Barnes (1980) and Jessor and Jessor (1977). Peer influence and school self-perception questions were similar to those by Barnes (1980). The frequency of alcohol and drug use questions were similar to Barnes (1980). The second level examined the questions for readability and cultural sensitivity.

Section II of each of the two questionnaires focused on knowledge and attitudes relating to alcohol and other drugs. A Section II was designed for each of grades 5-6 and grades 7-8. The difference in the questionnaires between the two sets of grades reflects the different objectives in the Northwest Territories Alcohol and Other Drugs Curriculum

for the different grades. The questions were developed by the investigator and an expert team of two health educators.

The variable of alcohol and drug education/knowledge was measured as a knowledge score for alcohol and a knowledge score for drugs. The knowledge score for alcohol was calculated as the number of correct responses, written as a percentage of the total. The questions referring to alcohol in the grade 5 survey were: 11-13, 17-22, 27-30. The alcohol questions in the grade 8 survey were the same as the grade 5 questionnaire with the addition of question 33, 35, 36. The knowledge score for drugs was also calculated as the number of correct responses, written as a percentage of the total. The questions referring to drugs were 1-4, 6-8, 10, 15, 16. The grade 5 survey and the grade 8 survey had the same drug questions. For both alcohol and drugs, a score of 71-100% was grouped as a strong knowledge score while a score of 70% or less was grouped as a weak knowledge score.

Section II of the questionnaires was examined for content validity by a panel of experts to determine whether the questions asked reflected the objectives of the New Alcohol and Other Drugs Curriculum 1987.

The questionnaires were piloted at the grade 5 and the grade 8 levels in two different communities, one reflecting the Dene culture and the other reflecting the Inuit culture. A total of two classrooms at each of the grade 5 and 8 levels participated in the pilot of the questionnaires. The time required to administer the two questionnaires at the grade 5 and 8 levels was 90 minutes.

Data Collection Methodology

The questionnaires were designed to be teacher administered and were distributed to schools by the Northwest Territories Department of Education. Questionnaires were administered in August, September and October of 1987. The lengthy survey period was needed to accommodate staggered school fall start up dates, weather conditions and distance.

Analysis of Data

The data were analyzed using descriptive and inferential statistics. The data were coded and the SAS statistical program was used. In order to identify the association between the variables, frequencies and cross-tabulations were constructed. Cross-tabulations show the joint frequency distribution of the two variables. In order to clarify the pattern of association, the cell frequencies were converted to percentages. (Dyer 1979). Chi square analysis was used to study the differences between the percentages and to determine whether the two variables are dependent upon one another. Chi square is a mathematical index symbolized by (χ^2) which expresses the difference between the observed frequencies and the expected frequencies. The formula for calculating chi square is:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

For each cell, the difference between the observed and the expected frequencies is computed and then squared. The result is divided by the expected frequency for that cell. The chi square procedure is repeated for all the cells and the values for all the cells are then summed (Dinham 1976). To test the chi square value for significance, the null hypothesis assumes that the two variables are independent. A table of critical values of the chi square distribution is used. The chi square value is compared to the critical value of (χ^2) at the appropriate degrees of freedom and level of significance. Significant chi square values are those that are greater than or equal to the critical value which would lead to rejection of the null hypotheses.

The null hypothesis was tested at a significance level of .01. This significance level of .01 was used to protect against the possibility of a Type I error (rejected the null hypothesis when in fact it is true). The following six research hypotheses were tested at the .01 level of significance:

1. There is a relationship between school students' alcohol and drug use and ethnicity. (Non-Native, Dene, Metis and Inuit).

(Refer to Appendix A, part 1 of the questionnaire; Question 4 refers to ethnicity, while each alcohol and drug question was scored individually: question 43-alcohol, question 44-marijuana, question 45-solvents, question 46-cocaine, question 52-chewing tobacco and question 71-cigarettes).

2. There is a difference in alcohol and drug use among school students as a function of gender.

(Refer to Appendix A, part 1 of the questionnaire; Question 1 refers to gender, while each alcohol and drug question was scored individually: question 43-alcohol, question 44-marijuana, question 45-solvents, question 46-cocaine, question 52-chewing tobacco and question 71-cigarettes).

3. There is a difference in alcohol and drug use among school students as a function of grade.

(Refer to Appendix A, part 1 of the questionnaire; Question 3 refers to grade, while each alcohol and drug question was scored individually: question 43-alcohol, question 44-marijuana, question 45-solvents, question 46-cocaine, question 52-chewing tobacco and question 71-cigarettes).

4. There is a relationship between peer influence and alcohol and drug use among school students.

(Refer to Appendix A, part 1 of the questionnaire; peer influence score was a sum of questions 77-86, while each alcohol and drug question was scored individually: questions 43-alcohol, question 44-marijuana, question 45-solvents, question 46-cocaine, question 52-chewing tobacco and question 71-cigarettes).

5. There is a relationship between school self-perception and alcohol and drug use among students.

(Refer to Appendix A, part 1 of the questionnaire; self-perception score was the sum of questions 12-24, while each alcohol and drug question was scored individually: question 43-alcohol, question 44-marijuana, question 45-solvents, question 46-cocaine, question 52-chewing tobacco and question 71-cigarettes).

6. There is a relationship between school students' alcohol and drug use and the amount of knowledge they possess.

(Refer to Appendix A, the grade 5 questionnaire in Section II: the drug and alcohol knowledge scores were calculated as the number of correct responses, written as a percentage of the total. The questions referring to drugs were: 1-4, 6-8, 10, 15, 16. The alcohol questions were: 11-13, 17-22, 27-30. In the grade 8 questionnaire in Section II, the drug questions are the same as in the grade 5 questionnaire. The alcohol questions for grade 8 are the same as grade 5 with the addition of questions 33, 35, 36). Refer to Section I for the alcohol and drug use questions which were scored individually: question 43-alcohol, question 44-marijuana, question 45-solvents, question 46-cocaine, question 52-chewing tobacco and question 71-cigarettes.

CHAPTER IV

RESULTS

In Chapter IV, both descriptive and inferential statistics were used to analyze the data. The chapter contains a discussion and an examination of tables related to the frequency of alcohol and drug use in the overall sample, the frequency of alcohol and drug use for the sample by ethnic group, by gender, and by grade 5-6 and grade 7-8 and the results related to the six research hypotheses.

Alcohol and Drug Use

Table 2 shows the frequency of drug use in the overall sample for grades 5 to 8. Students responded to the use of the following: alcohol, marijuana, solvents, cocaine and chewing tobacco.

Of the 1,046 students in grades 5 to 8 who answered the alcohol use question, 842 (80.50%) never use alcohol. While 107 (10.23%) students reported using alcohol once a month, 97 (9.28%) students use alcohol ranging from 2-3 times a month to everyday.

Most students do not use marijuana 964 (91.37%), solvents 1,031 (97.82%) or cocaine 1,040 (98.67%).

Of the 1,063 students who answered the chewing tobacco use question, 923 (86.83%) never use chewing tobacco. Sixty-eight (6.40%) students chew tobacco every day.

For the purpose of this investigation, a regular user of a drug (excluding cigarettes) is one who uses the drug once a week or more. Of the total sample, 42 students or 4.02% of those responding to the alcohol question were regular users of alcohol. With respect to marijuana, 25 students or 2.4% of those responding were regular users. For solvents, seven students or .66% of those responding were regular users. For cocaine, six students or .57% of the respondents were regular users. For chewing tobacco, 108 students or 10.1% of the respondents were regular users.

Cigarette Smoking

Table 3 shows the frequency of cigarette smoking for the overall sample. Of the 1,055 students in grade 5 to 8 who answered the cigarette smoking question, 769 (73.59%) do not smoke. A total of 143 (13.68%) students smoke less than 10 cigarettes in a week while 143 (13.68%) smoke ten or more cigarettes in a week. For the purpose of this investigation, students who smoke 10 or more cigarettes per week are classified as regular smokers.

Tables 4-8 display the frequency of drug use for the sample by ethnic groups, by gender and by grade 5-6 and grade 7-8.

TABLE 2

FREQUENCY OF DRUG USE ON THE OVERALL SAMPLE

	ALCOHOL		MARIJUANA		SOLVENTS		COCAINE		CHEWING TOBACCO	
	N	%	N	%	N	%	N	%	N	%
NEVER	842	80.50	964	91.37	1,031	97.82	1,040	97.67	923	86.83
ONCE A MONTH	107	10.23	42	3.98	12	1.14	6	.57	19	1.77
2-3 TIMES A MONTH	55	5.26	24	2.27	4	.38	2	.19	13	1.22
ONCE A WEEK	21	2.01	8	.76	3	.28	2	.19	19	1.77
2-3 TIMES A WEEK	19	1.82	10	.95	2	.19	2	.19	21	1.98
EVERY DAY	2	.19	7	.66	2	.19	2	.19	68	6.40
TOTAL	1,046		1,055		1,054		1,054		1,063	

TABLE 3

CIGARETTE SMOKING (for the overall sample)

DO NOT USE	769	73.59%
LESS THAN 10	143	13.68%
10 - 20	64	6.12%
20 or MORE	79	7.56%

Alcohol

Table 4 shows that in the grade 5-6 sample, 315 (83.78%) males do not use alcohol while 320 (91.17%) females do not use alcohol. Within the four ethnic groups at the grade 5-6 level, 33 (61.11%) Dene male students have never used alcohol as compared to 31 (93.94%) Metis males, 177 (87.19%) Inuit males and 74 (86.05%) Non-Native males. The Dene male reported a greater usage of alcohol than the other three ethnic groups. With respect to grade 5-6 females, 174 (93.05%) Inuit females, 77 (91.67%) Non-Native females, 26 (89.66%) Metis females and 43 (84.31%) Dene females do not use alcohol. Alcohol use for the four female ethnic groups is similar.

Of the 376 grade 5-6 males who responded to the alcohol use question, nine or 2.39% use alcohol regularly. Similarly, of the 351 grade 5-6 females who responded to the alcohol use question, 11 or 3.13% are regular users of alcohol. The Dene males had the highest percentage of regular users of alcohol (6 or 11.0%) as compared to Inuit males (3 or 1.4%), Non-Native males (0 or 0.0%) and Metis males (0 or 0.00%). With respect to grade 5-6 females, the Dene females had the highest percentage of regular users of alcohol (4 or 7.84%) as compared to Inuit females (6 or 3.2%), Non-Native females (1 or 1.19%) and Metis females (0 or 0.00%).

In the grade 7-8 sample, 97 (63.34%) males do not use alcohol while 110 (66.27%) females do not use alcohol. Within the four ethnic groups at the grade 7-8 level, the Dene males had 10 (50%) students who do not use alcohol as compared to 56 (68.29%) Inuit males, 18

TABLE 4

FREQUENCY OF ALCOHOL USE BY ETHNICITY, GENDER AND GRADE

	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
GRADE 5-6 MALE	0	0	0	1	11	74	86
Non-Native	0.00	0.00	0.00	1.16	12.79	86.05	
GRADE 5-6 MALE	0	1	5	6	9	33	54
Dene	0.00	1.85	9.26	11.11	16.67	61.11	
GRADE 5-6 MALE	0	0	0	1	1	31	33
Metis	0.00	0.00	0.00	3.03	3.03	93.94	
GRADE 5-6 MALE	1	1	1	8	15	177	203
Inuit	0.49	0.49	0.49	3.94	7.39	87.19	
TOTAL	1	2	6	16	36	315	376
GRADE 5-6 FEMALE	0	0	1	0	6	77	84
Non-Native	0.00	0.00	1.19	0.00	7.14	91.67	
GRADE 5-6 FEMALE	0	2	2	0	4	43	51
Dene	0.00	3.92	3.92	0.00	7.84	84.31	
GRADE 5-6 FEMALE	0	0	0	1	2	26	29
Metis	0.00	0.00	0.00	3.45	6.90	89.66	
GRADE 5-6 FEMALE	1	4	1	0	7	174	187
Inuit	0.53	2.14	0.53	0.00	3.74	93.05	
TOTAL	1	6	4	1	19	320	351

(continued next page)

TABLE 4 (cont'd.)

FREQUENCY OF ALCOHOL USE BY ETHNICITY, GENDER AND GRADE

	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
GRADE 7-8 MALE	0	0	1	6	4	18	29
Non-Native	0.00	0.00	3.45	20.69	13.79	62.07	
GRADE 7-8 MALE	0	5	0	1	4	10	20
Dene	0.00	25.00	0.00	5.00	20.00	50.00	
GRADE 7-8 MALE	0	1	0	4	4	13	22
Metis	0.00	4.55	0.00	18.18	18.18	59.09	
GRADE 7-8 MALE	0	1	2	10	13	56	82
Inuit	0.00	1.22	2.44	12.20	15.85	68.29	
TOTAL	0	7	3	21	25	97	153
GRADE 7-8 FEMALE	0	1	1	3	4	24	33
Non-Native	0.00	3.03	3.03	9.09	12.12	72.73	
GRADE 7-8 FEMALE	0	1	2	4	3	22	32
Dene	0.00	3.13	6.25	12.50	9.38	68.75	
GRADE 7-8 FEMALE	0	1	3	7	7	9	27
Metis	0.00	3.70	11.11	25.93	25.93	33.33	
GRADE 7-8 FEMALE	0	1	2	3	13	55	74
Inuit	0.00	1.35	2.70	4.05	17.57	74.32	
TOTAL	0	4	8	17	27	110	166

(62.07%) Non-Native males and 13 (59.09%) Metis males. The Dene males, both at the grade 7-8 level and grade 5-6 level reported a greater usage of alcohol than the other three ethnic groups. With respect to grade 7-8 females, the Metis females had 9 (33.33%) students who do not use alcohol and compared to 55 (74.32%) Inuit females, 24 (72.73%) Non-Native females and 22 (68.75%) Dene females. The Metis female at the grade 7-8 level had a higher percentage of alcohol users as compared to the other three ethnic groups. For all four ethnic groups and for both males and females the use of alcohol increases from grade 5-6 and grade 7-8.

In the grade 7-8 sample, 10 or 6.54% of males are regular users of alcohol while 12 or 7.22% females reported regular use of alcohol. The Dene male had the highest percentage of regular users (5 or 25.00%) as compared to Metis males (1 or 4.55%), Inuit males (3 or 3.67%) and Non-Native males (1 or 3.45%). The Metis female at the grade 7-8 level had the highest percentage of regular users of alcohol (4 or 14.81%) as compared to Dene females (3 or 9.37%), Non-Native females (2 or 6.06%) and Inuit females (3 or 4.05%).

Marijuana

Table 5 shows the usage of marijuana. In the grade 5-6 sample, 359 (94.97%) males do not use marijuana while 350 (98.04%) females do not use marijuana. Within the four ethnic groups, both males and females reported a high percentage of students who have never used

TABLE 5

FREQUENCY OF MARIJUANA USE BY ETHNICITY, GENDER AND GRADE

	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
GRADE 5-6 MALE	0	0	0	0	0	86	86
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 MALE	0	1	0	0	2	51	54
Dene	0.00	1.85	0.00	0.00	3.70	94.44	
GRADE 5-6 MALE	0	0	0	0	0	34	34
Metis	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 MALE	2	4	1	3	6	188	204
Inuit	0.98	1.96	0.49	1.47	2.94	92.16	
TOTAL	2	5	1	3	8	359	378
GRADE 5-6 FEMALE	0	0	0	0	0	85	85
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 FEMALE	0	0	0	0	1	50	51
Dene	0.00	0.00	0.00	0.00	1.96	98.04	
GRADE 5-6 FEMALE	0	0	1	1	0	27	29
Metis	0.00	0.00	3.45	3.45	0.00	93.10	
GRADE 5-6 FEMALE	1	0	1	1	1	188	192
Inuit	0.52	0.00	0.52	0.52	0.52	97.92	
TOTAL	1	0	2	2	2	350	357

(continued next page)

TABLE 5 (cont'd.)

FREQUENCY OF MARIJUANA USE BY ETHNICITY, GENDER AND GRADE

	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
GRADE 7-8 MALE	0	0	0	1	0	28	29
Non-Native	0.00	0.00	0.00	3.45	0.00	96.55	
GRADE 7-8 MALE	0	0	0	1	4	16	21
Dene	0.00	0.00	0.00	4.76	19.05	76.19	
GRADE 7-8 MALE	0	1	0	1	4	16	22
Metis	0.00	4.55	0.00	4.55	18.18	72.73	
GRADE 7-8 MALE	1	1	1	8	7	64	82
Inuit	1.22	1.22	1.22	9.76	8.54	78.05	
TOTAL	1	2	1	11	15	124	154
GRADE 7-8 FEMALE	1	0	0	1	2	29	33
Non-Native	3.03	0.00	0.00	3.03	6.06	87.88	
GRADE 7-8 FEMALE	1	1	0	3	3	26	34
Dene	2.94	2.94	0.00	8.82	8.82	76.47	
GRADE 7-8 FEMALE	1	1	1	3	5	16	27
Metis	3.70	3.70	3.70	11.11	18.52	59.26	
GRADE 7-8 FEMALE	0	1	3	1	7	60	72
Inuit	0.00	1.39	4.17	1.39	9.72	83.33	
TOTAL	3	3	4	8	17	131	166

marijuana: Non-Native males 86 (100.00%), Metis males 34 (100.00%), Dene males 51 (94.44%) Inuit males 188 (92.16%), Non-Native females 85 (100.00%), Dene females 50 (98.04%), Inuit females 188 (97.92%) and Metis females 27 (93.10%). The use of marijuana at the grade 5-6 level is not common among males or females in any of the four ethnic groups.

In the grade 5-6 sample, 9 or 2.38% males are regular users of marijuana and 3 or .84% females use marijuana on a regular basis. The Inuit males had the highest percentage of regular users of marijuana (7 or 3.43%) as compared to Dene males (1 or 1.85%), Non-Native males (0 or 0.00%) and Metis males (0 or 0.00%). With respect to grade 5-6 females, Metis females had the highest percentage of regular users of marijuana (1 or 3.45%) as compared to Inuit females (2 or 1.04%), Non-Native females (0 or 0.00%) and Dene females (0 or 0.00%).

In the grade 7-8 sample, 124 (80.52%) males do not use marijuana while 131 (78.92%) females do not use marijuana. The Non-Native males had 28 (96.55%) students who have never used marijuana as compared to 64 (78.05%) Inuit males, 16 (76.19%) Dene males and 16 (72.73%) Metis males who do not use marijuana. The Non-Native males at the grade 7-8 level had the highest percentage of students who never use marijuana as compared to the other three ethnic groups. Metis females at the grade 7-8 level had 16 (59.26%) students who never use marijuana as compared to 29 (87.88%) Non-Native females, 60 (83.33%) Inuit females and 26 (76.47%) Dene females who do not use marijuana. Metis females at the grade 7-8 level had the highest usage of marijuana as compared to the other three ethnic groups. There is an overall increase in the

use of marijuana from grade 5-6 to grade 7-8, for the four ethnic groups and for males and females.

In the grade 7-8 sample, 4 or 2.60% males are regular users of marijuana and 10 or 6.02% females use marijuana on a regular basis. The Metis males had the highest percentage of regular users of marijuana (1 or 4.55%) as compared to Inuit males (3 or 3.67%), Non-Native males (0 or 0.00%) and Dene males (0 or 0.00%). For females, Metis females had the highest percentage of regular users of marijuana (3 or 11.11%) as compared to Dene females (2 or 5.88%), Inuit females (4 or 5.56%) and Non-Native females (1 or 3.03%).

Solvents

Table 6 displays the usage for solvents. The majority of the sample does not use solvents. In the grade 5-6 sample, 369 (97.11%) males do not use solvents while 351 (98.87%) females do not use solvents. The following figures show the number of students who never use solvents by ethnic group and gender: 34 (100.00%) Dene males, 202 (98.54%) Inuit males, 86 (98.85%) Non-Native males, 47 (87.04%) Dene males, 84 (100.00%) Non-Native females, 51 (100.00%) Dene females, 189 (98.44%) Inuit females and 27 (96.43%) Metis females.

In the grade 5-6 sample, 6 or 1.53% males are regular users of solvents and 1 or 1.35% females use solvents regularly. Dene males had 4 or 7.41% regular users of solvents as compared to Inuit males (2 or .98%). Non-Native males (0 or 0.00%) and Metis males (0.00%). In

TABLE 6

FREQUENCY OF SOLVENT USE BY ETHNICITY, GENDER AND GRADE

		2-3		2-3			
	EVERY	TIMES	ONCE A	TIMES	ONCE A	NEVER	TOTAL
	DAY	A WEEK	WEEK	A MONTH	MONTH		
GRADE 5-6 MALE	0	0	0	0	1	86	87
Non-Native	0.00	0.00	0.00	0.00	1.15	98.85	
GRADE 5-6 MALE	1	2	1	1	2	47	54
Dene	1.85	3.70	1.85	1.85	3.70	87.04	
GRADE 5-6 MALE	0	0	0	0	0	34	34
Metis	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 MALE	1	0	1	0	1	202	205
Inuit	0.49	0.00	0.49	0.00	0.49	98.54	
TOTAL	2	2	2	1	4	363	380
GRADE 5-6 FEMALE	0	0	0	0	0	84	84
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 FEMALE	0	0	0	0	0	51	51
Dene	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 FEMALE	0	0	0	0	1	27	28
Metis	0.00	0.00	0.00	0.00	3.57	96.43	
GRADE 5-6 FEMALE	0	0	0	0	3	189	192
Inuit	0.00	0.00	0.00	0.00	1.56	98.44	
TOTAL	0	0	0	0	4	351	355

(continued next page)

TABLE 6 (cont'd.)

FREQUENCY OF SOLVENT USE BY ETHNICITY, GENDER AND GRADE

	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
GRADE 7-8 MALE	0	0	0	0	0	29	29
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 MALE	0	0	0	1	1	17	19
Dene	0.00	0.00	0.00	5.26	5.26	89.47	
GRADE 7-8 MALE	0	0	0	0	0	22	22
Metis	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 MALE	0	0	0	0	3	78	81
Inuit	0.00	0.00	0.00	0.00	3.70	96.30	
TOTAL	0	0	0	1	4	146	151
GRADE 7-8 FEMALE	0	0	0	0	0	33	33
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 FEMALE	0	0	0	0	0	34	34
Dene	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 FEMALE	0	0	0	1	0	26	27
Metis	0.00	0.00	0.00	3.70	0.00	96.30	
GRADE 7-8 FEMALE	0	0	1	1	0	72	74
Inuit	0.00	0.00	1.35	1.35	0.00	97.30	
TOTAL	0	0	1	2	0	165	168

the grade 5-6 sample, there were no females who were regular users of solvents.

In the grade 7-8 sample, 146 (96.69%) males do not use solvents while 165 (98.21%) females do not use solvents. By ethnic group, 29 (100.00%) Non-Native males, 22 (100.00%) Metis males, 78 (96.30%) Inuit males, 17 (89.47%) Dene males do not use solvents while 34 (100.00%) Non-Native females, 34 (100.00%) Dene females, 72 (97.30%) Inuit females and 26 (96.30%) Metis females do not use solvents. On the basis of the responses recorded, solvent use is not common among students in grades 5-6 and grades 7-8.

In the grade 7-8 sample, there were no males who were regular users of solvents. One or 1.35% Inuit females was a regular user of solvents while the other three ethnic groups had no females who were regular users of solvents.

Cocaine

Table 7 shows the usage of cocaine. The majority of the sample do not use cocaine. In the grade 5-6 sample, 367 (97.35%) males do not use cocaine while 357 (100.00%) females do not use cocaine. By ethnic group, 85 (100.00%) Non-Native males, 34 (100.00%) Metis males, 52 (96.30%) Dene males and 196 (96.08%) Inuit males do not use cocaine while 192 (100.00%) Inuit females, 85 (100.00%) Non-Native females, 51 (100.00%) Dene females and 29 (100.00%) Metis females do not use cocaine.

TABLE 7

FREQUENCY OF COCAINE USE BY ETHNICITY, GENDER AND GRADE

	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
GRADE 5-6 MALE	0	0	0	0	0	85	85
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 MALE	1	1	0	0	0	52	54
Dene	1.85	1.85	0.00	0.00	0.00	96.30	
GRADE 5-6 MALE	0	0	0	0	0	34	34
Metis	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 MALE	1	1	1	1	4	196	204
Inuit	0.49	0.49	0.49	0.49	1.96	96.08	
TOTAL	2	2	1	1	4	367	377
GRADE 5-6 FEMALE	0	0	0	0	0	85	85
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 FEMALE	0	0	0	0	0	51	51
Dene	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 FEMALE	0	0	0	0	0	29	29
Metis	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 5-6 FEMALE	0	0	0	0	0	192	192
Inuit	0.00	0.00	0.00	0.00	0.00	100.00	
TOTAL	0	0	0	0	0	357	357

(continued next page)

TABLE 7 (cont'd.)

FREQUENCY OF COCAINE USE BY ETHNICITY, GENDER AND GRADE

	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
GRADE 7-8 MALE	0	0	0	0	0	29	29
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 MALE	0	0	0	0	0	20	20
Dene	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 MALE	0	0	0	0	0	22	22
Metis	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 MALE	0	0	0	0	1	80	81
Inuit	0.00	0.00	0.00	0.00	1.23	98.77	
TOTAL	0	0	0	0	1	151	152
GRADE 7-8 FEMALE	0	0	0	0	0	33	33
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 FEMALE	0	0	0	0	0	34	34
Dene	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 FEMALE	0	0	0	1	1	25	27
Metis	0.00	0.00	0.00	3.70	3.70	92.59	
GRADE 7-8 FEMALE	0	0	1	0	0	73	74
Inuit	0.00	0.00	1.35	0.00	0.00	98.65	
TOTAL	0	0	1	1	1	135	168

In the grade 5-6 sample, 5 or 1.32% males are regular users of cocaine while 1 or .59% females reported regular use of cocaine. Dene males had 2 or 3.70% regular users of cocaine as compared to Inuit males (3 or 1.47%), Non-Native males (0 or 0.00%) and Metis males (0 or 0.00%). Females at the grade 5-6 level reported no regular users of cocaine.

In the grade 7-8 sample, 151 (99.34%) males do not use cocaine while 165 (98.21%) females do not use cocaine. By ethnic group, 29 (100.00%) Non-Native males, 22 (100.00%) Metis males, 20 (100.00%) Dene males and 80 (98.77%) Inuit males do not use cocaine while 33 (100.00%) Non-Native females, 34 (100.00%) Dene females, 73 (98.65%) Inuit females and 25 (92.59%) Metis females do not use cocaine. On the basis of the responses recorded, cocaine use is not common among students in grades 5-6 and grades 7-8.

In the grade 7-8 sample, no males are regular users of cocaine while 1 or .59% females use cocaine regularly. The Inuit females had 1 or 1.35% regular user of cocaine while there were no reported users of cocaine in the other three female ethnic groups.

Chewing Tobacco

Table 8 displays the usage of chewing tobacco. In the grade 5-6 sample, 306 (80.10%) males do not use chewing tobacco while 322 (92.00%) females do not use chewing tobacco. By ethnic groups and gender, the Non-Native male (84 or 96.55%) and Metis male (32 or

TABLE 8

FREQUENCY OF CHEWING TOBACCO USE BY ETHNICITY, GENDER AND GRADE

	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
GRADE 5-6 MALE	2	0	0	0	1	84	87
Non-Native	2.30	0.00	0.00	0.00	1.15	96.55	
GRADE 5-6 MALE	12	3	3	1	4	31	54
Dene	22.22	5.56	5.56	1.85	7.41	57.41	
GRADE 5-6 MALE	0	0	0	1	0	32	33
Metis	0.00	0.00	0.00	3.03	0.00	96.97	
GRADE 5-6 MALE	28	6	3	6	6	159	208
Inuit	13.46	2.88	1.44	2.88	2.88	76.44	
TOTAL	42	9	6	8	11	306	382
GRADE 5-6 FEMALE	0	0	0	0	1	83	84
Non-Native	0.00	0.00	0.00	0.00	1.19	98.81	
GRADE 5-6 FEMALE	7	3	6	1	3	31	51
Dene	13.73	5.88	11.76	1.96	5.88	60.78	
GRADE 5-6 FEMALE	0	0	0	0	1	28	29
Metis	0.00	0.00	0.00	0.00	3.45	96.55	
GRADE 5-6 FEMALE	4	0	0	1	1	180	186
Inuit	2.15	0.00	0.00	0.54	0.54	96.77	
TOTAL	11	3	6	2	5	322	350

(continued next page)

TABLE 8 (cont'd.)

FREQUENCY OF CHEWING TOBACCO USE BY ETHNICITY, GENDER AND GRADE

	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
GRADE 7-8 MALE	0	0	0	0	0	29	29
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 MALE	5	4	1	1	0	10	21
Dene	23.81	19.05	4.76	4.76	0.00	47.62	
GRADE 7-8 MALE	2	0	0	0	0	20	22
Metis	9.09	0.00	0.00	0.00	0.00	90.91	
GRADE 7-8 MALE	6	2	1	1	1	71	82
Inuit	7.32	2.44	1.22	1.22	1.22	86.59	
TOTAL	13	6	2	2	1	130	154
GRADE 7-8 FEMALE	0	0	0	0	0	33	33
Non-Native	0.00	0.00	0.00	0.00	0.00	100.00	
GRADE 7-8 FEMALE	1	3	4	1	0	25	34
Dene	2.94	8.82	11.76	2.94	0.00	73.53	
GRADE 7-8 FEMALE	0	0	1	0	1	25	27
Metis	0.00	0.00	3.70	0.00	3.70	92.59	
GRADE 7-8 FEMALE	0	0	0	0	0	75	75
Inuit	0.00	0.00	0.00	0.00	0.00	100.00	
TOTAL	1	3	5	1	1	158	169

96.97%) have a high percentage of students who never use chewing tobacco, while Inuit males (159 or 76.44%) and Dene males (31 or 57.41%) have a lower percentage of students who have never used chewing tobacco. Table 8 shows that the greatest percentage of use by Dene males and Inuit males is occurring in the "everyday" category. The Inuit male had 28 (13.46%) students who use chewing tobacco everyday and the Dene males had 12 (22.22%) students who use chewing tobacco everyday. In the grade 5-6 sample for females by ethnic group, 83 (98.81%) Non-Native females, 180 (96.77%) Inuit females and 28 (96.55%) Metis females do not use chewing tobacco as compared to 31 (60.78%) Dene females who do not use chewing tobacco. Dene females like the Dene male have the highest percentage of users of chewing tobacco.

In the grade 5-6 sample, 57 or 14.92% males are regular users of chewing tobacco as compared to 20 or 5.71% females who are regular users of chewing tobacco. Dene males reported the highest percentage of regular users of chewing tobacco (18 or 33.33%) as compared to Inuit males (37 or 17.79%), Non-Native males (2 or 2.30%) and Metis males (0 or 0.00%). With respect to females, Dene females had the highest percentage of regular users of chewing tobacco (16 or 31.37%) as compared to Inuit females (4 or 2.15%), Non-Native females (0 or 0.00%) and Metis females (0 or 0.00%).

In the grade 7-8 sample, 130 (84.42%) males do not use chewing tobacco while 158 (93.49%) females do not use chewing tobacco. The Dene male (10 or 47.62%) has the lowest percentage of non-users of chewing tobacco as compared to Non-Native males (29 or 100.00%), Metis males (20 or 90.91%), and Inuit males (71 or 86.59%). In the grade 7-8 sample for females, 25 (73.55%) Dene females do not use chewing tobacco as compared to 75 (100.00%) Inuit females, 33 (100.00%) Non-Native females and 25 (92.59%) Metis females. The Dene females at the grade 7-8 level had a higher percentage of users of chewing tobacco as compared to the other three ethnic groups. At both the grade 5-6 and 7-8 levels, males are using chewing tobacco more than females.

In the grade 7-8 sample, 21 or 13.64% males use chewing tobacco regularly and 10 or 5.92% females use chewing tobacco regularly. The Dene male had the highest percentage of regular users of chewing tobacco (10 or 47.62%) as compared to Inuit males (9 or 10.98%), Metis males (2 or 9.09%) and Non-Native males (0 or 0.00%). With respect to grade 7-8 females, Dene females reported the highest percentage of regular users of chewing tobacco (9 or 26.47%) as compared to Metis females (1 or 3.70%), Non-Native females (0 or 0.00%) and Inuit females (0 or 0.00%).

Cigarette Smoking

The figures for cigarette smoking are shown in Table 9. Those students who smoke 10 cigarettes or more in a week are classified as

TABLE 9

FREQUENCY OF USE OF CIGARETTES BY ETHNICITY, GENDER AND GRADE

	20 OR MORE	10 - 20	LESS THAN 10	DO NOT USE	TOTAL
GRADE 5-6 MALE	0	1	4	81	86
Non-Native	0.00	1.16	4.65	94.19	
GRADE 5-6 MALE	2	4	11	37	54
Dene	3.70	7.41	20.37	68.52	
GRADE 5-6 MALE	0	0	2	32	34
Metis	0.00	0.00	5.88	94.12	
GRADE 5-6 MALE	15	6	27	154	202
Inuit	7.43	2.97	13.37	76.14	
TOTAL	17	11	44	304	376
GRADE 5-6 FEMALE	0	0	1	83	84
Non-Native	0.00	0.00	1.19	98.81	
GRADE 5-6 FEMALE	1	3	8	38	50
Dene	2.00	6.00	16.00	76.00	
GRADE 5-6 FEMALE	1	0	1	26	28
Metis	3.57	0.00	3.57	92.86	
GRADE 5-6 FEMALE	8	5	27	147	187
Inuit	4.28	2.67	14.44	78.61	
TOTAL	10	8	37	294	349

(continued next page)

TABLE 9 (cont'd.)

FREQUENCY OF USE OF CIGARETTES BY ETHNICITY, GENDER AND GRADE

	20 OR MORE	10 - 20	LESS THAN 10	DO NOT USE	TOTAL
GRADE 7-8 MALE	3	2	1	24	30
Non-Native	10.00	6.67	3.33	80.00	
GRADE 7-8 MALE	2	1	4	13	20
Dene	10.00	5.00	20.00	65.00	
GRADE 7-8 MALE	2	1	4	15	22
Metis	9.09	4.55	18.18	68.18	
GRADE 7-8 MALE	19	8	18	37	82
Inuit	23.17	9.76	21.95	45.12	
TOTAL	26	12	27	89	154
GRADE 7-8 FEMALE	3	3	2	25	33
Non-Native	9.09	9.09	6.06	75.76	
GRADE 7-8 FEMALE	6	3	9	16	34
Dene	17.65	8.82	26.47	47.06	
GRADE 7-8 FEMALE	3	3	7	13	26
Metis	11.54	11.54	26.92	50.00	
GRADE 7-8 FEMALE	14	14	17	28	73
Inuit	19.18	19.18	23.29	38.36	
TOTAL	26	23	35	67	142

regular smokers while those students who smoke 1-10 cigarettes in a week are classified as occasional smokers.

In the grade 5-6 sample, 304 (80.85%) males do not use cigarettes while 294 (84.24%) females do not use cigarettes. By ethnic group and gender, 81 (94.19%) Non-Native males and 32 (94.12%) Metis males do not use cigarettes as compared to 154 (76.24%) Inuit males and 37 (68.52%) Dene males who do not use cigarettes. Similarly for females, 83 (98.81%) Non-Native females and 26 (92.86%) Metis females do not use cigarettes as compared to 147 (78.61%) Inuit females and 38 (78.00%) Dene females.

In the grade 5-6 sample, 28 or 7.44% males are regular smokers and 18 or 5.15% females are regular smokers. The Dene males (6 or 11.11%) and Inuit males (21 or 10.39%) reported the highest percentage of regular smokers as compared to Non-Native males (1 or 1.16%) and Metis males (0 or 0.00%). For grade 5-6 females, Dene females (4 or 8.00%) and Inuit females (13 or 6.95%) reported the highest percentage of regular smokers as compared to Metis females (1 or 3.57%) and Non-Native females (0 or 0.00%).

In the grade 5-6 sample, 44 or 11.70% males are occasional smokers and 37 or 10.60% females are occasional smokers. Dene males reported 11 or 20.37% occasional smokers, Inuit males (27 or 13.37%), Metis males (2 or 5.88%) and Non-Native males (4 or 4.65%). For females, 8 or 16.00% Dene females are occasional smokers with Inuit (27 or 14.43%), Metis (3.57%) and Non-Native (1.19%) occasional smokers.

In the grade 7-8 sample, there is an increase in usage of cigarettes by both males and females. While 89 (57.79%) males do not use cigarettes, 82 (49.40%) females do not use cigarettes. A greater percentage of grade 7-8 females are smoking more than grade 7-8 males. By ethnic group and gender, 24 (80.00%) Non-Native males do not use cigarettes as compared to 15 (68.18%) Metis males, 13 (65.00%) Dene males and 37 (45.12%) Inuit males. With respect to grade 7-8 females and cigarette smoking, 25 (75.76%) Non-Native females do not use cigarettes as compared to 13 (50.00%) Metis females, 16 (47.06%) Dene females and 28 (38.36%) Inuit females.

In the grade 7-8 sample, 38 or 24.67% males and 49 or 29.52% females are regular smokers. The Inuit male (27 or 32.93%) reported the highest percentage of regular smokers as compared to Non-Native males (5 or 16.67%), Dene males (3 or 15.00%) and Metis males (3 or 13.65%). For females, Inuit females reported the highest percentage of regular smokers (28 or 38.36%) as compared to Dene females (9 or 26.47%), Metis females (6 or 23.07%) and Non-Native females (6 or 18.18%).

In the grade 7-8 sample, 41 or 26.63% males and 35 or 21.08% females are occasional smokers. Non-Native males (1 or 3.33%) reported the lowest percentage of occasional smokers as compared to Inuit males (18 or 21.95%), Dene males (4 or 20.00%) and Metis males (4 or 18.18%). Non-Native females (2 or 6.06%) reported the lowest percentage of occasional smokers as compared to Metis females (7 or 26.92%), Dene females (9 or 24.47%) and Inuit females (17 or 23.29%).

Hypotheses

To test the following six research hypotheses, the chi square statistic at the .01 level of significance was used. Explanation of the chi square is found in Chapter Three. In this investigation, most of the chi square values found are not valid. For the chi square statistic to be applied and conclusions made, each expected cell frequency must be at least five. Each hypothesis will be discussed using six chi square tables that are associated with the variable to be measured. Each of the six chi square tables is representative of the data on the frequency of alcohol and drug use. Valid and invalid chi square results will be identified and examined.

Hypothesis 1

Research Hypothesis H(R) 1

There is a relationship between school students' alcohol and drug use and ethnicity. (Non-Native, Dene, Metis and Inuit).

Null Hypothesis H(0) 1

There is no relationship between school students' alcohol and drug use and ethnicity. (Non-Native, Dene, Metis and Inuit).

The chi square analysis resulted in a significant difference between ethnicity and the use of alcohol (see Table 10). The Inuit (464, 84.63%) and the Non-Native (193, 83.19%) groups have more students who never use alcohol as compared to Dene (108, 68.79%) and

TABLE 10

CHI SQUARE ANALYSIS OF ETHNICITY BY USE OF ALCOHOL

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Non-Native	0	1	3	10	25	193	232
	0.00	0.43	1.29	4.31	10.78	83.19	
Dene	0	9	9	11	20	108	157
	0.00	5.73	5.73	7.01	12.74	68.79	
Metis	0	2	3	13	14	79	111
	0.00	1.80	2.70	11.71	12.61	71.17	
Inuit	2	7	6	21	48	464	548
	0.36	1.28	1.09	3.83	8.76	84.67	
TOTAL	2	19	21	55	107	844	1,048

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 30.578$ (df=15).

STATISTIC	DF	VALUE	PROB
Chi Square	15	52.769	0.000

Effective Sample Size = 1048

Frequency Missing = 32

Warning: 41% of the cells have expected counts less than 5.

Chi Square may not be a valid test.

Metis (79, 71.17%) groups. While a significant chi square was found, 41% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis. Therefore, caution is needed in interpreting this significant finding.

The chi square analysis resulted in no significant difference between ethnicity and the use of marijuana (see Table 11). The four ethnic groups have a high percentage of students who do not use marijuana: Non-Native (228, 97.85%), Inuit (502, 90.94%), Dene (143, 89.38%) and Metis (193, 83.04%). Caution is needed in interpreting these results since 50% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis.

The chi square analysis resulted in no significant difference between ethnicity and solvent use (see Table 12). The four ethnic groups have a high percentage of students who do not use solvents: Non-Native (232, 99.57%), Inuit (543, 98.01%), Metis (109, 98.20%) and Dene (149, 94.30%). Caution is needed in interpreting this finding since 79% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. However, since the differences in the percentages between the four ethnic groups is very small, it is probably safe to conclude that no significant difference exists.

The chi square analysis resulted in no significant difference between ethnicity and use of cocaine (see Table 13). The four ethnic

TABLE 11

CHI SQUARE ANALYSIS OF ETHNICITY BY MARIJUANA

FREQUENCY ROW PERCENT	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
Non-Native	1 0.43	0 0.00	0 0.00	2 0.86	2 0.86	228 97.85	233
Dene	1 0.63	2 1.25	0 0.00	4 2.50	10 6.25	143 89.38	160
Metis	1 0.89	2 1.79	2 1.79	5 4.46	9 8.04	93 83.04	112
Inuit	4 0.72	6 1.09	6 1.09	13 2.36	21 3.80	502 90.94	552
TOTAL	7	10	8	24	42	966	1,057

At $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 30.578$ (df=15).

STATISTIC	DF	VALUE	PROB
Chi Square	15	27.910	0.022

Effective Sample Size = 1057

Frequency Missing = 23

Warning: 58% of the cells have expected counts less than 5.
 Chi Square may not be a valid test.

TABLE 12

CHI SQUARE ANALYSIS OF ETHNICITY BY USE OF SOLVENTS

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Non-Native	0	0	0	0	1	232	233
	0.00	0.00	0.00	0.00	0.43	99.57	
Dene	1	2	1	2	3	149	158
	0.63	1.27	0.63	1.27	1.90	94.30	
Metis	0	0	0	1	1	109	111
	0.00	0.00	0.00	0.90	0.90	98.20	
Inuit	1	0	2	1	7	543	544
	0.18	0.00	0.36	0.18	1.26	98.01	
TOTAL	2	2	3	4	12	1,033	1,056

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 30.578$ (df=15).

STATISTIC	DF	VALUE	PROB
Chi Square	15	23.213	0.080

Effective Sample Size = 1056

Frequency Missing = 24

Warning: 79% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

TABLE 13

CHI SQUARE ANALYSIS OF ETHNICITY BY USE OF COCAINE

FREQUENCY ROW PERCENT	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
Non-Native	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	232 100.00	232
Dene	1 0.63	1 0.63	0 0.00	0 0.00	0 0.00	157 98.74	159
Metis	0 0.00	0 0.00	0 0.00	1 0.89	1 0.89	110 98.21	112
Inuit	1 0.18	1 0.18	2 0.36	1 0.18	5 0.90	543 98.19	553
TOTAL	2	2	2	2	6	1,042	1,056

At $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 30.578$ (df=15).

STATISTIC	DF	VALUE	PROB
Chi Square	15	13.624	0.554

Effective Sample Size = 1056

Frequency Missing = 24

Warning: 83% of the cells have expected counts less than 5.

Chi Square may not be a valid test.

groups have a high percentage of students who do not use cocaine: Non-Native (232, 100.00%), Dene (157, 98.74%), Metis (110, 98.21%) and Inuit (543, 98.19%). Caution is needed in interpreting this finding since 83% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. However, since the difference in the percentages between the four ethnic groups is small, it is probably safe to conclude that no significant difference exists.

The chi square analysis resulted in a significant difference between ethnicity and the use of chewing tobacco (see Table 14). The Dene (97, 60.63%) group has the lowest percentage of students who do not use chewing tobacco as compared to the Non-Native (229, 98.28%), Metis (105, 94.59%) and Inuit (487, 88.07%). While a significant chi square was found, 45% of the cells had a frequency less than five values thus raising the question of validity of the chi square in this analysis. Therefore, caution is needed in interpreting this significant finding.

The chi square analysis resulted in a significant difference between ethnicity and the use of cigarettes (see Table 15). The Non-Native (213, 91.42%) group has the highest percentage of students who do not smoke as compared to Metis (86, 78.18%), Inuit (368, 67.40%) and Dene (104, 65.42%). The chi square is a valid test since all the cells contain more than 5 values.

TABLE 14

CHI SQUARE ANALYSIS OF ETHNICITY BY USE OF CHEWING TOBACCO

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Non-Native	2	0	0	0	2	229	233
	0.86	0.00	0.00	0.00	0.86	98.28	
Dene	25	13	14	4	7	97	160
	15.63	8.13	8.75	2.50	4.38	60.63	
Metis	2	0	1	1	2	105	111
	1.80	0.00	0.90	0.90	1.80	94.59	
Inuit	38	8	4	8	8	487	553
	6.87	1.45	0.72	1.45	1.45	88.07	
TOTAL	67	21	19	13	19	918	1,057

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 30.578$ (df=15).

STATISTIC	DF	VALUE	PROB
Chi Square	15	155.655	0.000

Effective Sample Size = 1057

Frequency Missing = 23

Warning: 50% of the cells have expected counts less than 5.

Chi Square may not be a valid test.

TABLE 15

CHI SQUARE ANALYSIS OF ETHNICITY BY USE OF CIGARETTES

FREQUENCY ROW PERCENT	20 OR MORE	10 - 20	LESS THAN 10	DO NOT USE	TOTAL
Non-Native	6 2.58	6 2.58	8 3.43	213 91.42	233
Dene	11 6.96	11 6.96	32 20.25	104 65.82	158
Metis	6 5.45	4 3.64	14 12.73	86 78.18	110
Inuit	56 10.26	33 6.04	89 16.30	368 67.40	546
TOTAL	79	54	143	771	1,047

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 30.578$ (df=15).

STATISTIC	DF	VALUE	PROB
Chi Square	15	59.223	0.000

Effective Sample Size = 1047

Frequency Missing = 33

In Tables 10-15, the relationship between school students' alcohol and drug use and ethnicity was discussed. A significant difference between ethnicity and use of alcohol, chewing tobacco and cigarettes was found. Dene and Metis groups have a higher percentage of users of alcohol than the Non-Native and Inuit groups. The Dene group has a higher percentage of students who use chewing tobacco compared to the other three ethnic groups. There was no significant difference found between ethnicity and use of marijuana, solvents and cocaine. The four ethnic groups have a high percentage of students who do not use marijuana, solvents and cocaine.

Hypothesis 2

Research Hypothesis H(R)2

There is a difference in alcohol and drug use among school students as a function of gender.

Null Hypothesis H(0)2

There is no difference in alcohol and drug use among school students as a function of gender.

The chi square analysis resulted in no significant difference between alcohol use and gender (see Table 16). The percentage of males (413, 77.78%) and females (432, 83.24%) who do not use alcohol is similar. The chi square value was not significant but since all the cells contain more than 5 values, the chi square is a valid test.

TABLE 16

CHI SQUARE ANALYSIS OF GENDER BY ALCOHOL

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Male	1	9	9	37	62	413	531
	0.19	1.69	1.69	6.97	11.68	77.78	
Female	1	10	12	18	46	432	519
	0.19	1.93	2.31	3.47	8.86	83.24	
TOTAL	2	19	21	55	108	845	1,050

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	9.707	0.084

Effective Sample Size = 1050

Frequency Missing = 30

The chi square analysis resulted in no significant difference between use of marijuana and gender (see Table 17). The percentage of females (483, 92.00%) and males (485, 90.82%) who do not use marijuana is similar. The chi square value was not significant but since all the cells contain more than 5 values, the chi square is a valid test.

The chi square analysis resulted in no significant difference between gender and solvent use (see Table 18). The percentage of females (518, 98.67%) and males (516, 96.81%) who do not use solvents is similar. Caution is needed in interpreting this finding since 66% of the cells had a frequency less than five values thus raising the question of the validity of the chi square.

The chi square analysis resulted in no significant difference between gender and use of cocaine (see Table 19). The percentage of females (524, 99.43%) and males (520, 97.93%) who do not use cocaine is similar. Caution is needed in interpreting this finding since 83% of the cells had a frequency less than five values thus raising the question of the validity of the chi square.

The chi square analysis resulted in a significant difference between chewing tobacco and gender (see Table 20). More females (482, 92.51%) never have used chewing tobacco as compared to males (437, 81.23%). Of those using chewing tobacco, more males (56, 10.41%) use it everyday than females (12, 2.30%). A significant chi square was found and since all the cells had more than 5 values, the chi square is a valid test.

TABLE 17

CHI SQUARE ANALYSIS OF GENDER BY USE OF MARIJUANA

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Male	3	7	2	14	23	485	534
	0.56	1.31	0.37	2.62	4.31	90.82	
Female	4	3	6	10	19	483	525
	0.76	0.57	1.14	1.90	3.62	92.00	
TOTAL	7	10	8	24	42	968	1,059

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	4.718	0.451

Effective Sample Size = 1059

Frequency Missing = 21

TABLE 18

CHI SQUARE ANALYSIS OF GENDER BY USE OF SOLVENTS

FREQUENCY	EVERY	2-3 TIMES	ONCE A	2-3 TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Male	2	2	2	2	9	516	533
	0.38	0.38	0.38	0.38	1.69	96.81	
Female	0	0	1	2	4	518	525
	0.00	0.00	0.19	0.38	0.76	98.67	
TOTAL	2	2	3	4	13	1,034	1,058

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	6.200	0.287

Effective Sample Size = 1058

Frequency Missing = 22

Warning: 66% of the cells have expected counts less than 5.
 Chi Square may not be a valid test.

TABLE 19

CHI SQUARE ANALYSIS OF GENDER BY USE OF COCAINE

FREQUENCY ROW PERCENT	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
Male	2 0.38	2 0.38	1 0.19	1 0.19	5 0.94	520 97.93	531
Female	0 0.00	0 0.00	1 0.19	1 0.19	1 0.19	524 99.43	527
TOTAL	2	2	2	2	6	1,044	1,058

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	6.667	0.247

Effective Sample Size = 1058

Frequency Missing = 22

Warning: 83% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

TABLE 20

CHI SQUARE ANALYSIS OF GENDER BY USE OF CHEWING TOBACCO

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Male	56	15	8	10	12	437	538
	10.41	2.79	1.49	1.86	2.23	81.23	
Female	12	6	11	3	7	482	521
	2.30	1.15	2.11	0.58	1.34	92.51	
TOTAL	68	21	19	13	19	919	1,059

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	39.827	0.000

Effective Sample Size = 1059

Frequency Missing = 21

The chi square analysis resulted in no significant difference between cigarette smoking and gender (see Table 21). The percentage of males (394, 74.20%) who do not smoke is similar to females (378, 73.11%). The chi square value found was not significant but since all the cells had more than 5 values, the chi square is a valid test.

In Tables 16-21, the relationship between gender and alcohol and drug use was discussed. There was a significant difference between gender and chewing tobacco. Males use chewing tobacco more than females. There were no significant differences found between gender and alcohol, marijuana, solvents, cocaine and cigarettes. Usage for alcohol and these drugs is similar for males and females.

TABLE 21

CHI SQUARE ANALYSIS OF GENDER BY USE OF CIGARETTES

FREQUENCY ROW PERCENT	20 OR MORE	10 - 20	LESS THAN 10	DO NOT USE	TOTAL
Male	43 8.10	23 4.33	71 13.37	394 74.20	531
Female	36 6.96	31 6.00	72 13.93	378 73.11	517
TOTAL	79	54	143	772	1,048

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 11.341$ (df=3).

STATISTIC	DF	VALUE	PROB
Chi Square	3	1.957	0.581

Effective Sample Size = 1048

Frequency Missing = 32

Hypothesis 3

Research Hypothesis H(R)3

There is a difference in alcohol and drug use among school students as a function of grade.

Null Hypothesis H(0)3

There is no difference in alcohol and drug use among school students as a function of grade.

The chi square analysis resulted in a significant difference between grade and the use of alcohol (see Table 22). As grade increases, the use of alcohol increases. In grade 5-6, 642 (87.35%) of students never use alcohol as compared to 207 (64.89%) students in grade 7-8 who never use alcohol. A significant chi square was found and since all the cells had more than 5 values, the chi square is a valid test.

TABLE 22

CHI SQUARE ANALYSIS OF GRADE BY USE OF ALCOHOL

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
5 & 6	2	8	10	17	56	642	735
	0.27	1.09	1.36	2.31	7.62	87.35	
7 & 8	0	11	11	38	52	207	319
	0.00	3.45	3.45	11.91	16.30	64.89	
TOTAL	2	19	21	55	108	849	1,054

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	82.179	0.000

Effective Sample Size = 1054

Frequency Missing = 26

The chi square resulted in a significant difference between grade and the use of marijuana (see Table 23). As grade increases, use of marijuana increases. In grade 5-6, 716 (96.50%) of students do not use marijuana as compared to 255 (79.69%) students in grade 7-8 who do not use marijuana. While a significant chi square was found, 33% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis. Therefore, caution is needed in interpreting this significant finding.

The chi square analysis resulted in no significant difference between grade and the use of solvents (see Table 24). In grade 5-6, 727 (97.85%) of students do not use solvents which is similar to grade 7-8 students (311, 97.49%). Caution is needed in interpreting this finding since 75% of the cells had a frequency less than five values thus raising the question of the validity of the chi square test.

The chi square analysis resulted in no significant difference between grade and the use of cocaine (see Table 25). In grade 5-6, 732 (98.65%) of students do not use cocaine and in grade 7-8, 316 (98.75%) of students do not use cocaine. Caution is needed in interpreting this finding since 83% of the cells had a frequency less than five values thus raising the question of the validity of the chi square.

The chi square resulted in no significant difference between grade and use of chewing tobacco (see Table 26). In grade 5-6, 635 (85.81%) of students do not use chewing tobacco and in grade 7-8, 288

TABLE 23

CHI SQUARE ANALYSIS OF GRADE BY USE OF MARIJUANA

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
5 & 6	3	5	3	5	10	716	742
	0.40	0.67	0.40	0.67	1.35	96.50	
7 & 8	4	5	5	19	32	255	320
	1.25	1.56	1.56	5.94	10.00	79.69	
TOTAL	7	10	8	24	42	971	1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	84.923	0.000

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 33% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

TABLE 24

CHI SQUARE ANALYSIS OF GRADE BY USE OF SOLVENTS

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
5 & 6	2	2	2	1	9	727	743
	0.27	0.27	0.27	0.13	1.21	97.85	
7 & 8	0	0	1	3	4	311	319
	0.00	0.00	0.31	0.94	1.25	97.49	
TOTAL	2	2	3	4	13	1,038	1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	5.587	0.349

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 75% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

TABLE 25

CHI SQUARE ANALYSIS OF GRADE BY USE OF COCAINE

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
5 & 6	2	2	1	1	4	732	742
	0.27	0.27	0.13	0.13	0.54	98.65	
7 & 8	0	0	1	1	2	316	320
	0.00	0.00	0.31	0.31	0.63	98.75	
TOTAL	2	2	2	2	6	1,048	1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	2.505	0.776

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 83% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

TABLE 26

CHI SQUARE ANALYSIS OF GRADE BY USE OF CHEWING TOBACCO

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
5 & 6	54	12	12	10	17	635	740
	7.30	1.62	1.62	1.35	2.30	85.81	
7 & 8	14	9	7	3	2	288	323
	4.33	2.79	2.17	0.93	0.62	89.16	
TOTAL	68	21	19	13	19	923	1,063

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	9.166	0.103

Effective Sample Size = 1063

Frequency Missing = .17

(89.16%) students do not use chewing tobacco. All the cells had more than five values, therefore the chi square is a valid test.

The chi square analysis resulted in a significant difference between cigarette smoking and grade (see Table 27). As grade increases more students are smoking. In grade 5-6, 604 (82.63%) of students do not smoke as compared to 171 (53.44%) of students in grade 7-8 who do not smoke. A significant chi square was found and since all the cells had more than 5 values, the chi square is a valid test.

In Tables 22-27, the relationship between grade and alcohol and drug use was discussed. There were significant differences between grade and alcohol, marijuana and cigarette smoking. There is an increase in use of alcohol, marijuana and cigarettes from grade 5-6 to grade 7-8. There were no significant differences found between grade and use of solvents, cocaine and chewing tobacco. Usage of these drugs was similar in grade 5-6 and in grade 7-8. Caution is needed in interpreting the results where the chi square may be invalid.

TABLE 27

CHI SQUARE ANALYSIS OF GRADE BY USE OF CIGARETTES

FREQUENCY ROW PERCENT	20 OR MORE	10 - 20	LESS THAN 10	DO NOT USE	TOTAL
5 & 6	27 3.69	19 2.60	81 11.08	604 82.63	731
7 & 8	52 16.25	35 10.94	62 19.38	171 53.44	320
TOTAL	79	54	143	775	1,051

At $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 11.341$ (df=3).

STATISTIC	DF	VALUE	PROB
Chi Square	3	113.772	0.000

Effective Sample Size = 1051

Frequency Missing = 29

Hypothesis 4

Research Hypothesis H(R)4

There is a relationship between peer influence and alcohol and drug use among school students.

Null Hypothesis H(0)4

There is no relationship between peer influence and alcohol and drug use among school students.

The chi square analysis resulted in a significant difference between peer influence and the use of alcohol (see Table 28). Students with a low peer influence score have a higher percentage of students who do not use alcohol (806, 84.58%) as compared to those students with a high peer influence score (43, 42.57%) who do not use alcohol. While a significant chi square was found, 33% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis. Therefore, caution is needed in interpreting this significant finding.

The chi square analysis resulted in a significant difference between peer influence and use of marijuana (see Table 29). Students with a low peer influence score have a higher percentage of students (914, 95.31%) who do not use marijuana as compared to those students in the high peer influence group (57, 55.34%) who do not use marijuana. While a significant chi square was found, 41% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis. Therefore, caution is needed in interpreting these findings.

TABLE 28

CHI SQUARE ANALYSIS OF PEER INFLUENCE BY USE OF ALCOHOL

		2-3	2-3				
FREQUENCY		EVERY	TIMES	ONCE A	TIMES	ONCE A	
ROW PERCENT		DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER
Low 0 - 5		1	14	11	37	84	806
		0.10	1.47	1.15	3.88	8.81	84.58
High 6 - 10		1	5	10	18	24	43
		0.99	4.95	9.90	17.82	23.76	42.57
TOTAL		2	19	21	55	108	849
							1,054

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	118.895	0.000

Effective Sample Size = 1054

Frequency Missing = 26

Warning: 33% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

TABLE 29

CHI SQUARE ANALYSIS OF PEER INFLUENCE BY USE OF MARIJUANA

		EVERY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
FREQUENCY	ROW PERCENT	DAY						
Low 0 - 5		5	3	2	12	23	914	959
		0.52	0.31	0.21	1.25	2.40	95.31	
High 6 - 10		2	7	6	12	19	57	103
		1.94	6.80	5.83	11.65	18.45	55.34	
TOTAL		7	10	8	24	42	971	1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	206.647	0.000

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 41% of the cells have expected counts less than 5.

Chi Square may not be a valid test.

The chi square analysis resulted in a significant difference between peer influence and use of solvents (see Table 30). Students with a low peer influence score have a higher percentage of students (948, 98.75%) who do not use solvents as compared to students in the high peer influence group who do not use solvents (90, 88.24%). While a significant chi square was found, 75% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis. Therefore, caution is needed in interpreting this significant finding.

The chi square analysis resulted in a significant difference between peer influence and use of cocaine (see Table 31). Students with a low peer influence score have a high percentage of students who do not use cocaine (951, 99.17%) as compared to students with a high peer influence score who do not use cocaine (97, 94.17%). While a significant chi square was found, 75% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis. Therefore, caution is needed in interpreting this significant finding.

The chi square analysis resulted in a significant difference between peer influence and use of chewing tobacco (see Table 32). Students with a low peer influence score have a higher percentage of students who do not use chewing tobacco (848, 88.33%) as compared to students in the high peer influence group who do not use chewing tobacco (75, 72.82%). While a significant chi square was found, 33% of the cells had a frequency less than five values thus raising the

TABLE 30

CHI SQUARE ANALYSIS OF PEER INFLUENCE BY USE OF SOLVENTS

FREQUENCY ROW PERCENT	2-3		2-3				NEVER	TOTAL
	EVERY DAY	TIMES A WEEK	ONCE A WEEK	TIMES A MONTH	ONCE A MONTH			
Low 0 - 5	0	0	2	0	10	948	960	
	0.00	0.00	0.21	0.00	1.04	98.75		
High 6 - 10	2	2	1	4	3	90	102	
	1.96	1.96	0.98	3.92	2.94	88.24		
TOTAL	2	2	3	4	13	1,038	1,062	

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	81.000	0.000

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 75% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

TABLE 31

CHI SQUARE ANALYSIS OF PEER INFLUENCE BY USE OF COCAINE

FREQUENCY ROW PERCENT	2-3		2-3		ONCE A MONTH	NEVER	TOTAL
	EVERY DAY	TIMES A WEEK	ONCE A WEEK	TIMES A MONTH			
Low 0 - 5	1 0.10	1 0.10	1 0.10	1 0.10	4 0.42	951 99.17	959
High 6 - 10	1 0.97	1 0.97	1 0.97	1 0.97	2 1.94	97 94.17	103
TOTAL	2	2	2	2	6	1,048	1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	18.898	0.002

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 75% of the cells have expected counts less than 5.

Chi Square not be a valid test.

TABLE 32

CHI SQUARE ANALYSIS OF PEER INFLUENCE BY USE OF CHEWING TOBACCO

		EVERY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
FREQUENCY	ROW PERCENT	DAY						
Low 0 - 5		52	20	17	9	14	848	960
		5.42	2.08	1.77	0.94	1.46	88.33	
High 6 - 10		16	1	2	4	5	75	103
		15.53	0.97	1.94	3.88	4.85	72.82	
TOTAL		68	21	19	13	19	923	1,063

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	30.665	0.000

Effective Sample Size = 1063

Frequency Missing = 17

Warning: 33% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

question of the validity of the chi square in this analysis.

Therefore, caution is needed in interpreting this significant finding.

The chi square analysis resulted in a significant difference between peer influence and use of cigarettes (see Table 33). Students in the low peer influence group have a higher percentage of non-smokers (739, 77.87%) as compared to students in the high peer influence (36, 35.29%). A significant chi square was found and since all the cells had more than 5 values, the chi square is a valid test.

In Tables 28-33, the relationship between peer influence and alcohol and drugs was discussed. There was a significant difference between peer influence and alcohol, marijuana, solvents, cocaine, chewing tobacco and cigarette smoking. Students who are not influenced by their peers have a lower percentage of alcohol and drug use as compared to students who are influenced by their peers. Caution is needed in interpreting the results where the chi square may be invalid.

TABLE 33

CHI SQUARE ANALYSIS OF PEER INFLUENCE BY USE OF CIGARETTES

FREQUENCY ROW PERCENT	20 OR MORE	10 - 20	LESS THAN 10	DO NOT USE	TOTAL
Low 0 - 5	61 6.43	38 4.00	111 11.70	739 77.87	949
High 6 - 10	18 17.65	16 15.69	32 31.37	36 35.29	102
TOTAL	79	54	143	775	1,051

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 11.341$ (df=3).

STATISTIC	DF	VALUE	PROB
Chi Square	3	88.735	0.000

Effective Sample Size = 1051

Frequency Missing = 29

Hypothesis 5

Research Hypothesis H(R)5

There is a relationship between school self-perception and alcohol and drug use among school students.

Null Hypothesis H(0)5

There is no relationship between school self-perception and alcohol and drug use among school students.

The chi square analysis resulted in no significant difference between school self-perception and the use of alcohol (see Table 34). The percentage of students with a low school self-perception score who never use alcohol (181, 75.73%) is similar to students who have a high school self-perception score and do not use alcohol (668, 81.96%). Caution is needed in interpreting these results since 33% of the cells had a frequency less than five values thus raising the question of the validity of the chi square.

The chi square analysis resulted in no significant difference between school self-perception and use of marijuana (see Table 35). The percentage of students with a low school self-perception score who never use marijuana (210, 86.78%) is similar to students who have a high school self-perception score and never use marijuana (761, 92.80%). Caution is needed in interpreting the findings since 25% of the cells had missing values thus raising the question of validity of the chi square in this analysis.

TABLE 34

CHI SQUARE ANALYSIS OF SCHOOL SELF-PERCEPTION BY USE OF ALCOHOL

		EVERY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
Low	26 or less	1 0.42	4 1.67	8 3.35	16 6.69	29 12.13	181 75.73	239
High	27 or more	1 0.12	15 1.84	13 1.60	39 4.79	79 9.69	668 81.96	815
TOTAL		2	19	21	55	108	849	1,054

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	6.984	0.222

Effective Sample Size = 1054

Frequency Missing = 26

Warning: 33% of the cells had expected counts less than 5.
Chi Square may not be a valid test.

TABLE 35

CHI SQUARE ANALYSIS OF SCHOOL SELF-PERCEPTION BY USE OF MARIJUANA

		2-3		2-3				
FREQUENCY		EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT		DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Low	26 or less	2	4	2	9	15	210	242
		0.83	1.65	0.83	3.72	6.20	86.78	
High	27 or more	5	6	6	15	27	761	820
		0.61	0.73	0.73	1.83	3.29	92.80	
TOTAL		7	10	8	24	42	971	1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	9.524	0.090

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 25% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

The chi square analysis resulted in no significant difference between school self-perception and use of solvents (see Table 36). The percentage of students with a low school self-perception score (236, 97.12%) is similar to students with a high school self-perception score who never use solvents (802, 97.92%). Caution is needed in interpreting the findings since 75% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis.

The chi square resulted in no significant difference between school self-perception and use of cocaine (see Table 37). The percentage of students with a low school self-perception score who never use cocaine (235, 97.11%) is similar to students who have a high school self-perception score and never use cocaine (813, 99.15%). Caution is needed in interpreting the findings since 83% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis.

The chi square resulted in no significant difference between school self-perception and use of chewing tobacco (see Table 38). The percentage of students with a low school self-perception score who never use chewing tobacco (207, 84.49%) is similar to students who have a high school self-perception score and do not use chewing tobacco (716, 87.53%). Caution is needed in interpreting the findings since 25% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis.

TABLE 36

CHI SQUARE ANALYSIS OF SCHOOL SELF-PERCEPTION BY USE OF SOLVENTS

FREQUENCY ROW PERCENT		2-3		2-3				
		EVERY DAY	TIMES A WEEK	ONCE A WEEK	TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
Low 26 or less		0	0	2	0	5	236	243
		0.00	0.00	0.82	0.00	2.06	97.12	
High 27 or more		2	2	1	4	8	802	819
		0.24	0.24	0.12	0.49	0.98	97.92	
TOTAL		2	2	3	4	13	1,038	1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	7.434	0.190

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 75% of the cells have expected counts less than 5.

Chi Square may not be a valid test.

TABLE 37

CHI SQUARE ANALYSIS OF SCHOOL SELF-PERCEPTION BY USE OF COCAINE

FREQUENCY ROW PERCENT		2-3		2-3			
		EVERY DAY	TIMES A WEEK	ONCE A WEEK	TIMES A MONTH	ONCE A MONTH	NEVER
Low 26 or less		1	0	1	2	3	235
		0.41	0.00	0.41	0.83	1.24	97.11
High 27 or more		1	2	1	0	3	813
		0.12	0.24	0.12	0.00	0.37	99.15
TOTAL		2	2	2	2	6	1,048
							1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	11.655	0.040

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 83% of the cells have expected counts less than 5.

Chi Square may not be a valid test.

TABLE 38

CHI SQUARE ANALYSIS OF SCHOOL SELF-PERCEPTION BY USE OF CHEWING TOBACCO

			2-3		2-3			
FREQUENCY		EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT		DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Low 26 or less		18	4	5	5	6	207	245
		7.35	1.63	2.04	2.04	2.45	84.49	
High 27 or more		50	17	14	8	13	716	818
		6.11	2.08	1.71	0.98	1.59	87.53	
TOTAL		68	21	19	13	19	923	1,063

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	3.475	0.627

Effective Sample Size = 1063

Frequency Missing = 17

Warning: 33% of the cells have expected counts less than 5.

Chi Square may not be a valid test.

The chi square analysis resulted in a significant difference between school self-perception and cigarette smoking (see Table 39). Self-perception is lower among cigarette smokers. Of students with a high school self-perception score, (629, 77.27%) do not smoke as compared to students with a low school self-perception score who do not smoke (146, 61.60%). A significant chi square was found and all the cells had more than 5 values. The chi square is a valid test.

In Table 34-39, the relationship between school self-perception and alcohol and drug use was discussed. There were no significant differences found between school self-perception and use of alcohol, marijuana, solvents, cocaine and chewing tobacco. Students with a low school self-perception score have similar patterns of alcohol and drugs use as students with a high school self-perception score. There was a significant difference found between school self-perception and cigarette smoking. School self-perception is lower in cigarette smokers. Caution is needed in interpreting the results where the chi square may not be valid.

TABLE 39

CHI SQUARE ANALYSIS OF SCHOOL SELF-PERCEPTION BY USE OF CIGARETTES

FREQUENCY ROW PERCENT	20 OR MORE	10 - 20	LESS THAN 10	DO NOT USE	TOTAL
Low 26 or less	27 11.39	16 6.75	48 20.25	146 61.60	237
High 27 or more	52 6.39	38 4.67	95 11.67	629 77.27	814
TOTAL	79	54	143	775	1,051

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 11.341$ (df=3).

STATISTIC	DF	VALUE	PROB
Chi Square	3	23.714	0.000

Effective Sample Size = 1051

Frequency Missing = 29

Hypothesis 6

Research Hypothesis H(R)6

There is a relationship between school students' alcohol and drug use and the amount of knowledge they possess.

Null Hypothesis H(0)6

There is no relationship between school students' alcohol and drug use and the amount of knowledge they possess.

Drug knowledge will be discussed in Tables 40-45 and alcohol knowledge will be discussed in Tables 46-51.

The chi square analysis resulted in a significant difference between drug knowledge and use of alcohol (see Table 40). Students in the weak drug knowledge category have a larger percentage of students who never use alcohol (809, 81.63%) as compared to students in the strong drug knowledge category who never use alcohol (40, 63.49%). While a significant chi square was found, 41% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in the analysis. Caution is needed in interpreting the results.

The chi square analysis resulted in no significant difference between drug knowledge and marijuana (see Table 41). The percentage of students in the weak drug knowledge category who do not use marijuana (918, 91.98%) is similar to students in the strong drug knowledge category who never use alcohol (53, 82.81%). Caution is needed in interpreting these findings since 41% of the cells had a

TABLE 40

CHI SQUARE ANALYSIS OF DRUG KNOWLEDGE BY USE OF ALCOHOL

FREQUENCY ROW PERCENT	2-3		2-3		ONCE A MONTH	NEVER	TOTAL
	EVERY DAY	TIMES A WEEK	ONCE A WEEK	TIMES A MONTH			
Weaker	2	17	16	49	98	809	991
	0.20	1.72	1.61	4.94	9.89	81.63	
Stronger	0	2	5	6	10	40	63
	0.00	3.17	7.94	9.52	15.87	63.49	
TOTAL	2	19	21	55	108	849	1,054

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	19.580	0.000

Effective Sample Size = 1054

Frequency Missing = 26

Warning: 41% of the cells have expected counts less than 5.
 Chi Square may not be a valid test.

TABLE 41

CHI SQUARE ANALYSIS OF DRUG KNOWLEDGE BY USE OF MARIJUANA

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Weaker	6	10	7	19	38	918	998
	0.60	1.00	0.70	1.90	3.81	91.98	
Stronger	1	0	1	5	4	53	64
	1.56	0.00	1.56	7.81	6.25	82.81	
TOTAL	7	10	8	24	42	971	1,062

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	12.828	0.025

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 41% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

frequency less than five values thus raising the question of the validity of the chi square.

The chi square analysis resulted in no significant difference between drug knowledge and the use of solvents (see Table 42). The percentage of students in the weak drug knowledge category who do not use solvents (975, 97.70%) is similar to students in the strong drug knowledge category who never use solvents (63, 98.44%). Caution is needed in interpreting these findings since 75% of the cells had a frequency less than five values thus raising the question of the validity of the chi square.

The chi square analysis resulted in no significant difference between drug knowledge and the use of cocaine (see Table 43). The percentage of students in the weak drug knowledge category who do not use cocaine (984, 98.60%) is similar to students in the strong drug knowledge category who do not use cocaine (64, 100.00%). Caution is needed in interpreting these findings since 75% of the cells had a frequency less than five values thus raising the question of the validity of the chi square.

The chi square analysis resulted in no significant difference between drug knowledge and the use of chewing tobacco (see Table 44). The percentage of students in the weak drug knowledge category who do not use chewing tobacco (870, 87.00%) is similar to students in the strong drug knowledge category who do not use chewing tobacco (53, 84.13%). Caution is needed in interpreting the results since 41% of the cells had a frequency less than five values thus raising the question of the validity of the chi square.

TABLE 42

CHI SQUARE ANALYSIS OF DRUG KNOWLEDGE BY USE OF SOLVENTS

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Weaker	2	2	3	3	13	975	998
	0.20	0.20	0.30	0.30	1.30	97.70	
Stronger	0	0	0	1	0	63	64
	0.00	0.00	0.00	1.56	0.00	98.44	
TOTAL	2	2	3	4	13	1,038	1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	3.829	0.574

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 75% of the cells have expected counts less than 5.

Chi Square may not be a valid test.

TABLE 43

CHI SQUARE ANALYSIS OF DRUG KNOWLEDGE BY USE OF COCAINE

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Weaker	2	2	2	2	6	984	998
	0.20	0.20	0.20	0.20	0.60	98.60	
Stronger	0	0	0	0	0	64	64
	0.00	0.00	0.00	0.00	0.00	100.00	
TOTAL	2	2	2	2	6	1,048	1,062

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	0.910	0.970

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 75% of the cells have expected counts less than 5.

Chi Square may not be a valid test.

TABLE 44

CHI SQUARE ANALYSIS OF DRUG KNOWLEDGE BY USE OF CHEWING TOBACCO

FREQUENCY ROW PERCENT	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
Weaker	61 6.10	21 2.10	16 1.60	13 1.30	19 1.90	870 87.00	1,000
Stronger	7 11.11	0 0.00	3 4.76	0 0.00	0 0.00	53 84.13	63
TOTAL	68	21	19	13	19	923	1,063

At $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	9.037	0.108

Effective Sample Size = 1063

Frequency Missing = 17

Warning: 41% of the cells have expected counts less than 5.
 Chi Square may not be a valid test.

The chi square analysis resulted in a significant difference between drug knowledge and the cigarette smoking (see Table 45). Students with more knowledge of drugs are smoking more than those students with less knowledge of drugs. Of the students that are weak in drug knowledge, 248 or 25.10% of them smoke while of those students that are strong in drug knowledge, 28 or 44.44% smoke. While a significant chi square was found, caution is needed in interpreting these findings since 25% of the cells had a frequency less than five values.

In Tables 40-45, the relationship between school students' alcohol and drug use and the amount of drug knowledge they possess was discussed. There were significant differences found between drug knowledge and use of alcohol and cigarette smoking. Students with more knowledge of drugs are using alcohol and cigarettes more than students who do not have as much knowledge about drugs. There were no significant differences found between drug knowledge and use of marijuana, solvents, cocaine and chewing tobacco. Regardless of the amount of drug knowledge students possess, use of marijuana, solvents, cocaine and chewing tobacco is similar.

The chi square analysis resulted in no significant difference between alcohol knowledge and the use of alcohol (see Table 46). The percentage of students in the weak alcohol knowledge category who do not use alcohol (840, 80.92%) is similar to students in the strong alcohol knowledge category (97, 56.25%). Caution is needed in interpreting these findings since 50% of the cells have a frequency less than five values thus raising the question of the validity of the chi square.

TABLE 45

CHI SQUARE ANALYSIS OF DRUG KNOWLEDGE BY USE OF CIGARETTES

FREQUENCY ROW PERCENT	20 OR MORE	10 - 20	LESS THAN 10	DO NOT USE	TOTAL
Weaker	74 7.49	45 4.55	129 13.06	740 74.90	988
Stronger	5 7.94	9 14.29	14 22.22	35 55.56	63
TOTAL	79	54	143	775	1,051

At $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 11.341$ (df=3).

STATISTIC	DF	VALUE	PROB
Chi Square	3	17.592	0.001

Effective Sample Size = 1051

Frequency Missing = 29

Warning: 25% of the cells have expected counts less than 5.
 Chi Square may not be a valid test.

TABLE 46

CHI SQUARE ANALYSIS OF ALCOHOL KNOWLEDGE BY USE OF ALCOHOL

FREQUENCY ROW PERCENT	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
Weaker	2 0.19	18 1.73	20 1.93	54 5.20	104 10.02	840 80.92	1,038
Stronger	0 0.00	1 6.25	1 6.25	1 6.25	4 25.00	9 56.25	16
TOTAL	2	19	21	55	108	849	1,054

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	7.967	0.158

Effective Sample Size = 1054

Frequency Missing = 26

Warning: 50% of the cells have expected counts less than 5.
 Chi Square may not be a valid test.

The chi square analysis resulted in no significant difference between alcohol knowledge and the use of marijuana (see Table 47). The percentage of students in the weak alcohol knowledge category who do not use marijuana (957, 90.11%) is similar to students in the strong alcohol knowledge category (14, 87.50%). Caution is needed in interpreting the findings since 41% of the cells had a frequency less than five values thus raising the question of the validity of the chi square.

The chi square resulted in no significant difference between alcohol knowledge and use of solvents (see Table 48). The percentage of students in the weak alcohol knowledge category who do not use solvents (1022, 97.71%) is similar to students in the strong alcohol category (16, 100.00%). Caution is needed in interpreting the findings since 75% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis.

The chi square analysis resulted in no significant difference between alcohol knowledge and use of cocaine (see Table 49). The percentage of students in the weak alcohol knowledge category who do not use cocaine (1032, 98.66%) is similar to students in the strong alcohol knowledge category (16, 100.00%). Caution is needed in interpreting the findings since 75% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis.

TABLE 47

CHI SQUARE ANALYSIS OF ALCOHOL KNOWLEDGE BY USE OF MARIJUANA

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Weaker	7	9	8	23	42	957	1,046
	0.67	0.86	0.76	2.20	4.02	91.49	
Stronger	0	1	0	1	0	14	16
	0.00	6.25	0.00	6.25	0.00	87.50	
TOTAL	7	10	8	24	42	971	1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	6.905	0.228

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 41% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

TABLE 48

CHI SQUARE ANALYSIS OF ALCOHOL KNOWLEDGE BY USE OF SOLVENTS

FREQUENCY ROW PERCENT	EVERY DAY	2-3 TIMES A WEEK	ONCE A WEEK	2-3 TIMES A MONTH	ONCE A MONTH	NEVER	TOTAL
Weaker	2 0.19	2 0.19	3 0.29	4 0.38	13 1.24	1,022 97.71	1,046
Stronger	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	16 100.00	16
TOTAL	2	2	3	4	13	1,038	1,062

AT $\alpha \leq 0.01$, the null hypothesis may be rejected if
 $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	0.376	0.996

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 75% of the cells have expected counts less than 5.
 Chi Square may not be a valid test.

TABLE 49

CHI SQUARE ANALYSIS OF ALCOHOL KNOWLEDGE BY USE OF COCAINE

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Weaker	2	2	2	2	6	1,032	1,046
	0.19	0.19	0.19	0.19	0.57	98.66	
Stronger	0	0	0	0	0	16	16
	0.00	0.00	0.00	0.00	0.00	100.00	
TOTAL	2	2	2	2	6	1,048	1,062

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	0.217	0.999

Effective Sample Size = 1062

Frequency Missing = 18

Warning: 75% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

The chi square analysis resulted in no significant difference between alcohol knowledge and use of chewing tobacco (see Table 50). The percentage of students in the weak alcohol knowledge category who do not use chewing tobacco (908, 86.72%) is similar to students in the strong alcohol knowledge category (15, 93.75%). Caution is needed in interpreting the findings since 41% of the cells had a frequency less than five values thus raising the question of the validity of the chi square in this analysis.

The chi square analysis resulted in no significant difference between alcohol knowledge and the use of cigarettes (see Table 51). The percentage of students in the weak alcohol knowledge category who do not smoke (764, 73.62%) is similar to students in the strong alcohol knowledge category (11, 68.75%). Caution is needed in interpreting these findings since 37% of the cells had a frequency less than five values thus raising the question of the validity of the chi square.

Tables 46-51 discussed the relationship between school students' alcohol and drug use and the amount of alcohol knowledge they possess. There were no significant differences found between alcohol knowledge and use of alcohol, marijuana, solvents, cocaine, chewing tobacco and cigarettes. Regardless of the amount of alcohol knowledge students possess, use of alcohol, marijuana, solvents, cocaine, chewing tobacco and cigarettes is similar. Caution is needed in interpreting the results where the chi square may be invalid.

TABLE 50

CHI SQUARE ANALYSIS OF ALCOHOL KNOWLEDGE BY USE OF CHEWING TOBACCO

		2-3		2-3			
FREQUENCY	EVERY	TIMES	ONCE A	TIMES	ONCE A		
ROW PERCENT	DAY	A WEEK	WEEK	A MONTH	MONTH	NEVER	TOTAL
Weaker	68	21	19	13	18	908	1,047
	6.49	2.01	1.81	1.24	1.72	86.72	
Stronger	0	0	0	0	1	15	16
	0.00	0.00	0.00	0.00	6.25	93.75	
TOTAL	68	21	19	13	19	923	1,063

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 15.086$ (df=5).

STATISTIC	DF	VALUE	PROB
Chi Square	5	3.749	0.586

Effective Sample Size = 1063

Frequency Missing = 17

Warning: 41% of the cells have expected counts less than 5.

Chi Square may not be a valid test.

TABLE 51

CHI SQUARE ANALYSIS OF ALCOHOL KNOWLEDGE BY USE OF CIGARETTES

FREQUENCY ROW PERCENT	20 OR MORE	10 - 20	LESS THAN 10	DO NOT USE	TOTAL
Weaker	77 7.44	53 5.12	141 13.62	764 73.82	1,035
Stronger	2 12.50	1 6.25	2 12.50	11 68.75	16
TOTAL	79	54	143	775	1,051

At $\alpha \leq 0.01$, the null hypothesis may be rejected if $\chi^2 \geq 11.341$ (df=3).

STATISTIC	DF	VALUE	PROB
Chi Square	3	0.645	0.886

Effective Sample Size = 1051

Frequency Missing = 29

Warning: 37% of the cells have expected counts less than 5.
Chi Square may not be a valid test.

CHAPTER V

SUMMARY, DISCUSSION AND CONCLUSIONS

Summary

The purpose of the study was to provide baseline data on the psychosocial correlates of alcohol and drug use of children and youth in the Northwest Territories. The study examined the relationship between six variables: ethnicity, gender, grade, peer influence, school self-perception and alcohol and drug knowledge, and use of six drugs: alcohol, marijuana, solvents, cocaine, chewing tobacco and cigarettes.

This investigation was a descriptive study of the psychosocial correlates of alcohol and drug use of students in grades 5 to 8 in the Northwest Territories. Students from 51 of the 73 schools in the Northwest Territories were surveyed with a total sample size of 1073. The sample was a stratified non random sample of schools with students in grade 5 and 6, and grade 7 and 8 from the six educational regions in the Northwest Territories: Yellowknife, Inuvik, Fort Smith, Kitikmeot, Baffin and Keewatin, and included a representative sample of four ethnic groups: the Inuit, Dene, Metis and Non-Native groups. The sample consisted of 748 grade 5 and 6 students and 325 grade 7 and 8 students. In grade 5-6, there were 387 males and 349 females. In grade 7-8, there were 155 males and 170 females.

Two questionnaires were designed and administered; one for grade 5-6 and one for grade 7-8 to collect data on students' alcohol and drug use and the six variables. Each questionnaire was titled, "The Alcohol and Other Drugs Survey (N.W.T.)", and was divided into two sections. Section I of each questionnaire was identical with questions relating to student background, perceptions about self, alcohol and drug use behaviours, leisure activities and influences of family and friends. Section II of each of the questionnaires focused on knowledge and attitudes that are part of the Northwest Territories Alcohol and Other Drugs Curriculum for grade 5 and 8. The questionnaires were designed to be teacher administered and were distributed to schools by the Northwest Territories Department of Education in August, September and October of 1987.

The data were analyzed using descriptive and inferential statistics. Chi square analysis was used to test the following six research hypotheses at the .01 level of significance:

1. There is a relationship between school students' alcohol and drug use and ethnicity.
2. There is a difference in alcohol and drug use among school students as a function of gender.
3. There is a difference in alcohol and drug use among school students as a function of grade.
4. There is a relationship between peer influence and alcohol and drug use among school students.

5. There is a relationship between school self-perception and alcohol and drug use among school students.
6. There is a relationship between school students' alcohol and drug use and the amount of knowledge they possess.

Discussion

Hypothesis 1

There is a relationship between school students' alcohol and drug use and ethnicity.

A significant difference was found between ethnicity and the use of alcohol. The Dene and Metis groups had a higher percentage of students who used alcohol as compared to the Inuit and Non-Native groups. Caution is needed in interpreting these findings since 33% of the cells had a frequency less than five values which raises the question of the validity of the chi square. The following studies indicated that alcohol is a major problem for the Native population. It should be noted that most of the studies are American findings. Schinke et al. (1985) stated that crimes related to alcohol abuse are much worse within the Native population as compared to the White population. Weibel-Orlando (1984) found that alcohol was used at higher rates by American Indian youth than among Whites. Brod (1975) found that Indians suffer alcoholic symptoms with far greater frequency than any other American group. May (1982) found that alcohol is reported to be higher among Indian youth as compared to others in the

United States. Two comparative studies conducted in Canada, Barnes (1980) and Liban and Smart (1979) found no significant difference between ethnicity and the use of alcohol.

There was a significant difference found between ethnicity and use of chewing tobacco. The Dene group had the highest percentage of students using chewing tobacco. Caution is needed in interpreting these significant findings, 45% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. There were no comparative studies on chewing tobacco found in the literature.

A significant difference was found between ethnicity and cigarette smoking. The Non-Native group had the lowest percentage of smokers as compared to the other three ethnic groups. In this case the chi square is a valid test since all the cells contain the appropriate number of values. There were no comparative studies available on cigarette smoking in the literature.

There was no significant difference found between ethnicity and use of marijuana. The four ethnic groups have a high percentage of students who do not use marijuana. Caution is needed in interpreting these findings since 50% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. The findings for marijuana in this study are not similar to the results found in the literature. Weibel-Orlando (1984) and May (1982) found higher rates of marijuana usage among American Indian youth as compared to White youth.

There was no significant difference found between ethnicity and use of solvents. There is a low percentage of students using solvents in all four ethnic groups. Caution is needed in interpreting the findings since 79% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. The findings for solvents in this study are similar to Barnes (1980). He found no significant difference in the prevalence of sniffing. However, Weibel-Orlando (1984), May (1982) and Bellegarde (1977) reported a higher usage of inhalants by Indian youth as compared to White youth.

There was no significant difference found between ethnicity and use of cocaine. There is a low percentage of students using cocaine in all four ethnic groups. Caution is needed in interpreting these findings since 83% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. The literature is sparse on studies involving cocaine and native people.

Significant differences were found between ethnicity and the use of alcohol, chewing tobacco and cigarettes. The native population is using these drugs more than the Non-Native population. There were no significant differences found between ethnicity and use of marijuana, solvents and cocaine. In this study, there is not a high prevalence of use of these drugs by any of the four ethnic groups. Caution is needed in interpreting the results where the chi square may be invalid.

Hypothesis 2

There is a difference in alcohol and drug use among school students as a function of gender.

There was no significant difference found between gender and use of alcohol. Use of alcohol between males and females is similar. In this case, all the cells had the appropriate number of values therefore the chi square is a valid test. Studies specifically related to the Native population reported similar findings. Barnes (1980) and Cockerham (1974) found no difference between males and females in the use of alcohol. However, Bellegarde (1977) in studying the Saskatchewan Native students found that males exceed females in the use of alcohol. Studies using the general population have found that males use alcohol more than females: (Gossett et al., 1971; Johnson et al., 1971; Smart et al., 1971; Rosenberg et al., 1974; Forslund and Gustafson, 1970; Bachman et al., 1981; Weschler and Thum, 1973; Galli, 1974;). Porter et al. (1973) studied students in Alaska and found no difference in the use of alcohol between males and females.

There was no significant difference found between gender and the use of marijuana. Use of marijuana between males and females is similar. In this case, all the cells had the appropriate number of values therefore the chi square is a valid test. With respect to Native literature, Barnes (1980) reported similar findings. He found no differences between males and females in the use of marijuana. However, Bellegarde (1977) found that use of marijuana is more common among males. Studies using the general population have found that

males use marijuana more than females: (Gossett et al., 1971; Johnson et al., 1971; Smart et al., 1971; Rosenberg et al., 1974; Galli, 1974). Porter et al. (1973) found no difference between male and females for the use of marijuana.

There was no significant difference found between gender and use of solvents. Use of solvents between males and females is similar. Caution is needed in interpreting these findings since 55% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. With respect to Native literature, Barnes (1980) found no difference between males and females in the use of solvents. However, Bellegarde (1977) found that use of solvents is more common among boys. For the general population, the following studies reported that males use solvents more than females: (Gossett et al., 1971; Johnson et al., 1971; Smart et al., 1971; Rosenberg et al., 1974). Porter et al. (1973) found no difference between males and females for use of solvents.

There was no significant difference found between gender and use of cocaine. Use of cocaine between males and females is similar. Caution is needed in interpreting these finding since 83% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. Galli (1974) found that for most drugs, there was no relationship between males and females and drug usage.

There was no significant difference found between gender and use of cigarettes. Use of cigarettes between males and females is similar. In this case, all the cells had the appropriate number of values

therefore the chi square is a valid test. With respect to the Native literature, Barnes (1980) reported similar findings. He found no significant difference between males and females and the use of tobacco. However, Bellegarde (1977) reported a higher incidence of cigarette smoking among females than males. Studies using the general population have found that males use tobacco more than females: (Gossett et al., 1971; Johnson et al., 1971; Smart et al., 1971). Porter (1973) and Rosenberg et al. (1974) found the usage rates for tobacco to be similar among males and females. The following studies found that females exceed males in the use of cigarettes: (Bachman et al., 1981; Brown et al., 1980; Botvin, 1980; Morrison, 1980). It is important to note that a new pattern may be emerging. The studies done in the early 70's indicate more males than females smoke while the studies in the early 80's show a reverse in that pattern.

There was a significant difference found between gender and chewing tobacco. Males use chewing tobacco more than females. In this case, all the cells had the appropriate number of values therefore the chi square is a valid test. These findings are similar to the results found by Bellegarde et al. (1977); Christen et al. (1982); Greer and Poulson (1983); Belanger and Poulson (1983); and Schafer et al. (1985).

There were no significant differences found between gender and use of alcohol, marijuana, solvents, cocaine and cigarettes. Both males and females have similar patterns of use of these drugs. A significant difference was found between gender and use of chewing tobacco. Males use chewing tobacco more than females. Caution is needed in interpreting the results where the chi square may be invalid.

Hypothesis 3

There is a difference in alcohol and drug use among school students as a function of grade.

There was a significant difference found between grade and use of alcohol. As grade increases, use of alcohol increases. In this case, all the cells had the appropriate number of values therefore the chi square is a valid test. These findings are similar to those of Johnson et al. (1971); Smart et al. (1971); Barnes (1980); and Bellegarde (1977).

There was a significant difference found between grade and use of marijuana. As grade increases, use of marijuana increases. Caution is needed in interpreting these findings since 44% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. These findings are similar to those of Barnes (1980) and Bellegarde (1977).

There was a significant difference found between grade and cigarette smoking. As grade increases, more students are using cigarettes. In this case, all the cells had the appropriate number of values therefore the chi square is a valid test. These findings are similar to those by Johnson et al. (1971); Smart et al. (1971); Barnes (1980); and Bellegarde (1977).

There was no significant difference found between grade and use of solvents. Use of solvents in grade 5-6 is similar to use in grade 7-8 with more than 97% of students both in grades 5-6 and 7-8 in this study not using solvents. Caution is needed in interpreting these findings since 77% of the cells had a frequency less than five values

thus raising the question of the validity of the chi square. However, since the number of students using solvents at each grade level is the same, one can be confident that the difference is not significant. The literature indicates that solvent abuse is prevalent in early adolescence and decreases with age and/or grade. Barnes (1980); Postl (1975); and Boeckx et al. (1977) reported that solvent sniffing was common at the ages of 10-14 which is grade 4-8.

There was no significant difference found between grade and cocaine. Students in this study generally do not use cocaine. Caution is needed in interpreting these findings since 83% of the cells had a frequency less than five values thus raising the question of the validity of the chi square.

There was no significant differences between grade and chewing tobacco. Use of chewing tobacco is similar for students in grade 5-6 and grade 7-8. In this case, all the cells had the appropriate number of values therefore the chi square is a valid test. The literature does not comment on an increase or decrease by grade level of chewing tobacco but studies indicated that use of chewing tobacco in general is increasing and it is being used from grade 6 to 12 (Christen et al., 1982; Belanger and Poulson, 1983; Bailey, 1985; Schafer et al., 1985).

Significant differences were found between grade and alcohol, marijuana and cigarettes. As grade increases, use of these drugs is increasing. There were no significant differences found between grade and use of solvents, cocaine and chewing tobacco. In this study, students are not using solvents, and cocaine at any grade level. Use

of chewing tobacco is occurring at every grade level from grade 6 to 12. Caution is needed in interpreting the results where the chi square may be invalid.

Hypothesis 4

There is a relationship between peer influence and alcohol and drug use among school students.

There was a significant difference found between peer influence and use of alcohol. Peer influence is an important factor in the use of alcohol. Caution is needed in interpreting these findings since 33% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. Findings in this study are similar to the results found in the following studies: (Forslund and Gustafson, 1970; Wechsler and Thum, 1973; Donovan and Jessor, 1978; Fixico, 1982; Schinke et al., 1985; Weibel-Orlando, 1984; Forslund, 1978; Barnes, 1980; Kim, 1972; May, 1980; Scottstaedt and Bjork, 1977; Scott, 1974).

There was a significant difference found between peer influence and use of marijuana. Peer influence is an important factor in the use of marijuana. Caution is needed in interpreting these findings since 33% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. Gossett et al. (1971) found that the most common source of illicit drug use was from adolescent peers.

There was a significant difference found between peer influence and use of solvents. Peer influence is an important factor in the use of solvents. Caution is needed in interpreting these findings since 75% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. Findings in this study are similar to studies in the related literature by Stybel et al. (1976); Barnes (1980); and May (1982).

There was a significant difference between peer influence and use of cocaine. Peer influence is an important factor in the use of cocaine. Caution is needed in interpreting these findings since 75% of the cells had a frequency less than five values thus raising the question of the validity of the chi square. The literature does not comment specifically on the use of cocaine however, Gossett et al. (1971) found that the most common source of illicit drug use was from adolescent peers.

There was a significant difference found between peer influence and chewing tobacco. Peer influence is an important factor in the use of chewing tobacco. Caution is needed in interpreting these findings since 33% of the cells had a frequency less than five values thus raising the validity of the chi square. There was no reference made to chewing tobacco in the literature.

There was a significant difference found between peer influence and use of cigarettes. In this case, all the cells had the appropriate number of values therefore the chi square is a valid test. These findings are similar to results found by Evans (1976); Roemild and

Perry (1980); McAlister (1980); Brown et al. (1980); Botvin (1980) found that the main factor influencing childrens' decisions to smoke is peer pressure.

Significant differences were found between peer influence and use of alcohol, marijuana, solvents, cocaine, chewing tobacco and cigarettes. Peer influence is an important factor in the use of alcohol and drugs among school students. Caution is needed in interpreting the results where the chi square may be invalid.

Hypothesis 5

There is a relationship between school self-perception and alcohol and drug use among school students.

There were no significant differences found between school self-perception and the use of alcohol, marijuana, solvents, cocaine and chewing tobacco. Regardless, if a student is high in school self-perception or low in school self-perception, use of alcohol and drugs is similar. Caution is needed in interpreting the findings for alcohol, marijuana, solvents, cocaine and chewing tobacco since a large percentage of the cells have missing values thus raising the question of the validity of the chi square. The findings in this study are not similar to the results found in the literature. Studies have indicated that school self-perception as measured by academic achievement, grades and college an career plans is lower in adolescents who use drugs. (Jessor and Jessor, 1985; Jessor and Jessor, 1977; Donovan and Jessor, 1978; Jessor et al., 1980; Galli, 1974; Bachman et al., 1981; Newman,

1970; McAlister et al., 1970; Botvin, 1980; Weschler and Thum, 1973, Smart et al., 1971; Barnes, 1980; Weibel-Orlando, 1984; Wingert and Fifield, 1985; Scott, 1974).

There was a significant difference found between alcohol self-perception and use of cigarettes. School self-perception is lower among students who smoke. In this case, all the cells contain the appropriate number of values therefore the chi square is a valid test. These findings are similar to those found by Newman (1970), McAlister et al. (1970); Botvin (1980); and Barnes (1980).

There were no significant differences found between school self-perception and use of alcohol, marijuana, solvents, cocaine and chewing tobacco. In this study, school self-perception is not lower among students who use alcohol and drugs. These results are contrary to the results found in the literature. A significant difference was found between school self-perception and use of cigarettes. School self-perception is lower among students who smoke. Caution is needed in interpreting the results where the chi square may not be valid.

Hypothesis 6

There is a relationship between school students' alcohol and drug use and the amount of knowledge they possess.

The relationship between drug knowledge and alcohol and drug use will be discussed followed by a discussion of the relationship between alcohol knowledge and alcohol and drug use.

There was a significant difference found between drug knowledge and alcohol use. Students who have more drug knowledge were using alcohol more than students who have less drug knowledge. Caution is needed in interpreting these findings since 33% of the cells for alcohol had missing values thus raising the validity of the chi square. Galli (1974), found that those students with formal drug education still had high rates of drug use. Fejer and Smart (1973) found that knowledge scores were higher among users of alcohol.

There was a significant difference found between drug knowledge and cigarette smoking. Students with more knowledge of drugs are smoking more than students with less knowledge of drugs. Caution is needed in interpreting these findings since 25% of the cell had a frequency less than five values thus raising the validity of the chi square. Thompson (1978) found most attempts at smoking education programs had little success in deterring smoking in adolescents.

Another interpretation of the above findings that students with more knowledge of drugs are using alcohol and cigarettes more than students with less drug knowledge is that as grade increases knowledge in general increases. In this study, the grade 7-8 students had a larger percentage of students in the strong drug knowledge category as compared to the grade 5-6 students. Also it was found in hypothesis 3 that as grade increases use of alcohol and cigarettes increases. Students in grade 7-8 use these drugs more than students in grade 5-6.

There were no significant differences found between drug knowledge and use of marijuana, solvents, cocaine and chewing tobacco. The

amount of drug knowledge students had did not affect their use of marijuana, solvents, cocaine or chewing tobacco. Caution is needed in interpreting these findings since 41% of the cells for marijuana, 75% of the cells for solvents, 75% of the cells for cocaine and 41% of the cells for chewing tobacco had missing values thus raising the question of the validity of the chi square. Tennant et al. (1973) found that information given to students about drugs did not decrease their use of drugs. In the present study, there is little reported use of marijuana, solvents and cocaine by students. With respect to chewing tobacco, there are similar patterns of use for students in grade 5-6 and grade 7-8.

The findings for alcohol knowledge are similar to the findings for drug knowledge. The literature generally does not distinguish between drug knowledge and alcohol knowledge.

There were no significant differences found between alcohol knowledge and use of alcohol, marijuana, solvents, cocaine, chewing tobacco and cigarettes. Students with more knowledge of alcohol have similar patterns of use of alcohol, marijuana, solvents, cocaine, chewing tobacco and cigarettes. Caution is needed in interpreting these findings since a large percentage of the cells had missing values thus raising the validity of the chi square.

Significant differences were found between drug knowledge and use of alcohol and cigarettes. Students with more knowledge of drugs were using alcohol and cigarettes more than students with less knowledge of drugs. In interpreting these results it is important to remember that

knowledge increases with an increase in grade and that as grade increases use of alcohol and cigarettes increases. There were no significant differences found between drug knowledge and use of marijuana, solvents, cocaine and chewing tobacco. In this study there is little reported use of marijuana, solvents and cocaine. Use of chewing tobacco is similar for grades 5-6 and 7-8.

There were no significant differences found between alcohol knowledge and use of alcohol, marijuana, solvents, cocaine, chewing tobacco and cigarettes. Students with more knowledge of alcohol have similar patterns of use of alcohol and drugs as students with less knowledge of alcohol. Caution is needed in interpreting the results where the chi square may be invalid.

Summary of Discussion

The six research hypotheses were analyzed using the chi square statistic at the .01 level of significance. In order for the chi square value to be valid, each expected cell frequency must be at least five values. An invalid chi square value would occur when the cell frequency was less than five values which would require the reader to use caution in interpreting the findings.

This section will discuss the valid chi square results and the invalid chi square results found in this study.

Valid Chi Square Results

There was a significant difference found between ethnicity and use of cigarettes. The Non-Native group had the lowest percentage of smokers as compared to the Dene, Metis and Inuit groups.

There was a significant difference found between gender and chewing tobacco. Males use chewing tobacco more than females.

There was a significant difference found between grade and the use of alcohol and cigarettes. As grade increases, the use of alcohol and cigarettes also increases.

There was a significant difference found between peer influence and the use of cigarettes. Peer influence is an important factor that affects school students' use of cigarettes.

There was a significant difference found between school self-perception and the use of cigarettes. School self-perception is lower among students who smoke.

There were no significant differences found between gender and use of alcohol, marijuana and cigarettes. Males and females use alcohol, marijuana and cigarettes similarly.

There were no significant differences found between grade and chewing tobacco. Students in grade 5-6 use chewing tobacco similarly to students in grade 7-8.

Invalid Chi Square Results

The following results must be interpreted with caution as the cell frequencies had less than five values therefore, the chi square may not be a valid test.

There was a significant difference found between ethnicity and use of alcohol. The Dene and the Metis groups had a higher percentage of students who used alcohol as compared to the Inuit and the Non-Native groups.

There was a significant difference found between ethnicity and the use of chewing tobacco. The Dene group had the highest percentage of students using chewing tobacco.

There was a significant difference found between grade and marijuana. As grade increases, use of marijuana increases.

There were significant differences found between peer influence and use of alcohol, marijuana, solvents, cocaine and chewing tobacco. Peer influence is an important factor in the use of alcohol and drugs.

There was a significant difference found between drug knowledge and the use of alcohol and cigarettes. Students with more knowledge about drugs are using alcohol and cigarettes more than students with less knowledge of drugs. These findings reflect the fact that knowledge increases with grade and also use of alcohol and cigarettes increases with grade.

There was no significant difference found between ethnicity and use of marijuana. All four ethnic groups do not have a high prevalence of use of marijuana.

There were no significant differences found between gender and use of solvents and cocaine, and between grade and use of cocaine. There is little reported use of solvents and cocaine by students in this study. However, since the percentages of students using solvents and cocaine at each grade level is the same, one can be confident that the difference is not significant.

There were no significant differences found between school self-perception and use of alcohol, marijuana, solvents, cocaine and chewing tobacco. Students with low school self-perceptions use alcohol and drugs similarly to students who have high school self-perception.

There were no significant differences found between drug knowledge and use of marijuana, solvents, cocaine, chewing tobacco. Students with more knowledge about drugs do not use marijuana, solvents, cocaine and chewing tobacco more than students who have less knowledge of drugs.

There were no significant differences found between alcohol knowledge and use of alcohol, marijuana, solvents, cocaine, chewing tobacco and cigarettes. Students with more alcohol knowledge do not use alcohol and drugs more than students with less alcohol knowledge.

Conclusions

1. The Dene, Metis and Inuit groups use cigarettes more than the Non-Native group. The Dene and the Metis groups use alcohol more than the Inuit and the Non-Native groups. The Dene group uses chewing tobacco more than the other three ethnic groups.

2. Males and females have the same patterns of use for alcohol, marijuana and cigarettes. Males use chewing tobacco more than females.
3. In this study there is little reported use of solvents and cocaine among students in grade 5-6 and 7-8.
4. As grade increases, use of alcohol, marijuana and cigarettes increases. Use of chewing tobacco is the same for grade 5-6 and 7-8 students.
5. Peer influence is an important factor in school students' use of alcohol and drugs.
6. School self-perception is not a factor associated with alcohol and drug use other than for cigarette smoking. School self-perception is lower among students who smoke. Results from this study are not similar to the literature which indicates that school self-perception is lower among students who use alcohol and drugs.
7. Students are using alcohol and drugs regardless of the amount of alcohol and drug knowledge they possess.

Implications of Findings

The results of this study indicate that the use of alcohol, chewing tobacco and cigarettes among the Native population in the Northwest Territories is a concern for health educators. The problem of alcohol and drug abuse is a difficult one to address since it not only affects the individual but includes social and cultural problems.

Health educators need to examine the root causes of alcohol and drug abuse in the communities in order to reduce the problem of alcohol and drug abuse.

In the school system, children need to be educated early about alcohol and drugs, and about the problems that are related to alcohol and drug abuse. Experimentation with drugs and alcohol generally begins during the intermediate school years, grades 4-6. Use of drugs and alcohol continues to increase through junior high. Generally after junior high, use of some drugs declines. However, use of alcohol and cigarettes seems to continue to increase after junior high school. The implementation of a school drug and alcohol program should begin in the primary grades and emphasis on the program needs to continue through intermediate, junior and high school grades. The Alcohol and Other Drugs Curriculum which is being implemented in the Northwest Territories is teaching students about alcohol and drugs commencing with primary grades and continuing through intermediate, junior and high school grades. Results of this study indicate that more emphasis is needed on the development of this curriculum as alcohol and drug knowledge scores for students in the Northwest Territories are very low. Only 5% of the students score 70% or higher on the drug and alcohol questions.

Besides alcohol and drug education, students require programs to assist them in dealing with the effects of peer pressure. As this study indicates, peer influence is an important factor in the use of alcohol and drugs by students. Intermediate and junior high grades are

a crucial time in which students experience the effects of peer pressure, not only with drugs but in other areas of their social development. The school system needs to develop a program that makes students aware of the effects of peer pressure and how it relates to drug use. The program must also teach students to find strategies to handle the problems associated with peer pressure. Currently, health educators are experimenting with a new approach to the prevention of smoking among school students. Studies by Flay et al. (1983); McAlistier et al. (1980); Botvin et al. (1980); Evans et al. (1978); and The Waterloo Studies (1979) are based on social psychological theories. These programs are attempting to provide students with decision making and social skills that will help them resist the pressures to become a smoker. These programs are experiencing positive results in the prevention of smoking and are being implemented in the intermediate and junior high school grades. These experimental smoking prevention programs recognize the significance of the relationship between peer pressure and smoking and also the need for early implementation of school programs. Even though more research is needed using the social psychological approach, health educators should develop alcohol and drug programs that are similar to the smoking prevention programs.

Educating children about alcohol and drugs is only one part of the solution to the alcohol and drug problem. It would be a challenge for health educators to develop a school program that could extend into the families and economic and cultural life of the communities.

Recommendations For Further Study

There is more research needed on alcohol and drug use among the Native and Inuit populations in Canada.

This study could be replicated using other variables available in the questionnaire such as influence of family, self-esteem and other grade levels.

A follow-up study should be conducted once the Alcohol and Other Drugs Curriculum has been implemented.

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APPENDICES

APPENDIX A - QUESTIONNAIRE

Alcohol and Other Drugs



ALCOHOL AND OTHER DRUGS SURVEY (N.W.T.)

Section I

School Code: _____

Student ID Number: _____

Put a CROSS [X] in the box that best describes you.

1. ☐ I am a boy

☐ I am a girl

2. How old are you?

☐ 10 years old or under

☐ 15 years old

☐ 11 years old

☐ 16 years old

☐ 12 years old

☐ 17 years old

☐ 13 years old

☐ 18 years old

☐ 14 years old

☐ 19 years old or over

3. What grade are you in?

☐ Grade 4

☐ Grade 7

☐ Grade 10

☐ Grade 5

☐ Grade 8

☐ Grade 11

☐ Grade 6

☐ Grade 9

☐ Grade 12

4. Which of the following are you?

☐ I am non-native

☐ I am Dene

☐ I am Metis

☐ I am Inuk

5. How far do you think you will go in school?

- ☐ Will probably complete Grade 6
- ☐ Will probably complete Grade 9
- ☐ Will probably complete Grade 12
- ☐ Will probably keep going to school after Grade 12

6. Which adult do you live with?

- ☐ My mother and my father
- ☐ Only my mother
- ☐ Only my father
- ☐ Other people
- ☐ Other students in residence

7. Do you make friends easily?

- ☐ Never
- ☐ Some of the time
- ☐ Most of the time

8. Do you have any close friends?

- ☐ I have many close friends
- ☐ I have few close friends
- ☐ I don't have any close friends

9. Whose ideas are most important to you in deciding about using or not using drugs and alcohol?

- | | |
|--------------------------------------|---|
| ☐ My parent's | ☐ My parent's and friend's equally |
| ☐ My friend's | ☐ I don't know |

CHECK [X] one answer for each sentence.

	Never	Some of the Time	Most of the Time
10. I do what my friends ask me to do	[]	[]	[]
11. I do things against my parent's wishes	[]	[]	[]
12. School work is fairly easy for me	[]	[]	[]
13. My teachers usually like me	[]	[]	[]
14. I can get good grades if I want to	[]	[]	[]
15. I forget most of what I learn	[]	[]	[]
16. I help to do a lot of things in class	[]	[]	[]
17. I am slow in finishing my school work	[]	[]	[]
18. I am proud of my school work	[]	[]	[]
19. I am a good reader	[]	[]	[]
20. I am doing as well in school as I would like to	[]	[]	[]
21. I find it hard to talk in front of the class	[]	[]	[]
22. I would like to quit school	[]	[]	[]
23. I am good in my school work	[]	[]	[]
24. My classmates think I am a good student	[]	[]	[]
25. I feel left out of things	[]	[]	[]
26. I have trouble making decisions	[]	[]	[]
27. I wish I were someone else	[]	[]	[]
28. I have confidence in myself	[]	[]	[]
29. I feel good about the way I look	[]	[]	[]
30. I am a happy person	[]	[]	[]
31. Other kids seem to like me	[]	[]	[]
32. I am a lonely person	[]	[]	[]

	Never	Some of the Time	Most of the Time
33. I wish I had more close friends	[]	[]	[]
34. My parents understand me	[]	[]	[]
35. I have arguments with my parents	[]	[]	[]
36. My parents expect too much of me	[]	[]	[]
37. I have a happy home life	[]	[]	[]
38. I would like to leave home	[]	[]	[]
39. My parents trust me	[]	[]	[]
40. My family and I have a lot of fun together	[]	[]	[]
41. I am an important person in my family	[]	[]	[]
42. My family doesn't think about my feelings	[]	[]	[]

CHECK [X] one answer for each sentence.

How often did you use these drugs in the
last month?

	Never	Once a Month	2-3 Times a Month	Once a Week	2-3 Times A Week	Every Day
43. Alcohol (beer, wine, liquor, home brew)	[]	[]	[]	[]	[]	[]
44. Marijuana or hashish	[]	[]	[]	[]	[]	[]
45. Solvents	[]	[]	[]	[]	[]	[]
46. Cocaine	[]	[]	[]	[]	[]	[]
47. Prescription drugs (from doctor, nurse, etc.)	[]	[]	[]	[]	[]	[]
48. Non-prescription drugs (Aspirin, Tylenol, cough medicine)	[]	[]	[]	[]	[]	[]
49. Coffee	[]	[]	[]	[]	[]	[]
50. Tea	[]	[]	[]	[]	[]	[]

	Never	Once a Month	2-3 Times a Month	Once a Week	2-3 Times A Week	Every Day
51. Cola drinks (with caffeine in them)	[]	[]	[]	[]	[]	[]
52. Chewing tobacco	[]	[]	[]	[]	[]	[]

How often do you do these
activities?

	Never	Once a Month	2-3 Times a Month	Once a Week	2-3 Times A Week	Every Day
53. Play or practise a team sport such as volley- ball, hockey or soccer	[]	[]	[]	[]	[]	[]
54. Play or practise sports such as skating or running	[]	[]	[]	[]	[]	[]
55. Play games with friends such as skipping, tag, road hockey, sliding	[]	[]	[]	[]	[]	[]
56. Do outdoor activities such as hunting, camp- ing, boating, fishing	[]	[]	[]	[]	[]	[]
57. Bicycle riding	[]	[]	[]	[]	[]	[]
58. Play card or board games such as checkers, chess, monopoly	[]	[]	[]	[]	[]	[]
59. Watch movies	[]	[]	[]	[]	[]	[]
60. Watch hockey games, basketball games, etc.	[]	[]	[]	[]	[]	[]
61. Do a hobby such as painting, crafts, wood- working, photography, sewing, carving	[]	[]	[]	[]	[]	[]
62. Go to activities such as Cadets, Cubs, Scouts, Brownies, Guides or church organizations	[]	[]	[]	[]	[]	[]

	Never	Once a Month	2-3 Times a Month	Once a Week	2-3 Times A Week	Every Day
63. Hang around with a group of friends	[]	[]	[]	[]	[]	[]
64. Watching television	[]	[]	[]	[]	[]	[]
65. Help around the house or residence	[]	[]	[]	[]	[]	[]
66. Read books and/or magazines	[]	[]	[]	[]	[]	[]
67. Listen to music (records, tapes, radio)	[]	[]	[]	[]	[]	[]
68. Do homework and study	[]	[]	[]	[]	[]	[]

CHECK [X] one answer for each sentence.

	Do not Use	1-2 Drinks	3-4 Drinks	5 or More Drinks
69. How much alcohol do you drink each time you do some drinking?	[]	[]	[]	[]

One drink means:

1 bottle of beer
1 - 4 oz. glass of wine
1 shot (1 1/2 oz. of liquor)

	Do not Use	With Family	Alone	With Friends
70. If you use alcohol do you usually drink?	[]	[]	[]	[]

	Do not Use	Less Than 10	10-20	20 or More
71. How many cigarettes do you usually smoke in a week?	[]	[]	[]	[]

	Do not Use	Alone	With Friends
72. If you sniff solvents, do you usually sniff	[]	[]	[]

73. If you use alcohol do you usually drink?
- | | Do not
Use | During
Week | At Week
End |
|--|---------------|----------------|----------------|
| | [] | [] | [] |
-
- | | Do Not
Use | At
Home | At a
Friend's
Home | Outside | At
School |
|--|---------------|------------|--------------------------|---------|--------------|
| 74. If you sniff solvents,
do you usually sniff | [] | [] | [] | [] | [] |
75. Why do you usually drink alcoholic beverages?
(CHECK [X] more than one answer if necessary.)
- [] Do not drink
- [] For the feeling
- [] To be less shy in public
- [] To forget my worries or sadness
- [] To overcome loneliness
- [] Because my friends are drinking
- [] To overcome boredom
- [] Other reasons (please write in if you have other reasons)
-
-
76. Why do you usually sniff solvents?
(CHECK [X] more than one answer if necessary.)
- [] Do not sniff
- [] For the feeling
- [] To forget my worries and sadness
- [] To overcome loneliness
- [] To overcome boredom
- [] Because my friends sniff
- [] Other reasons (please write in if you have other reasons)
-
-

Read each question and put a CROSS [X] in the box that is the best answer.

	Yes	No	Don't Know
77. Do most of your friends sniff?	[]	[]	[]
78. Have your friends asked you to sniff?	[]	[]	[]
79. Do most of your friends smoke cigarettes?	[]	[]	[]
80. Have your friends asked you to smoke cigarettes?	[]	[]	[]
81. Do most of your friends chew tobacco?	[]	[]	[]
82. Have your friends asked you to chew tobacco?	[]	[]	[]
83. Do most of your friends drink alcohol?	[]	[]	[]
84. Have your friends asked you to drink alcohol?	[]	[]	[]
85. Do most of your friends use marijuana or hashish?	[]	[]	[]
86. Have your friends asked you to use marijuana or hashish?	[]	[]	[]
	Never	Some of the Time	Most of the Time
87. Have your friends encouraged you to do things you know are harmful?	[]	[]	[]

Alcohol and Other Drugs



ALCOHOL AND OTHER DRUGS SURVEY (N.W.T.) GRADE 5

Section II

School Code: _____

Student ID Number: _____

For each sentence or question, put a CROSS [X] in the box that is the best answer. If you don't know the answer, put the CROSS in the box beside don't know. DON'T GUESS.

Sample Questions.

There are 3 sample questions below. The first has been done for you, You are to do the other two.

A) The blood is pumped by the

- ☐ Lungs
- ☐ Stomach
- ☒ Heart
- ☐ Liver
- ☐ Don't know

B) What part of our body controls thinking?

- ☐ Hands
- ☐ Feet
- ☐ Brain
- ☐ Nose
- ☐ Don't know

C) Healthy teeth are important.

- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

START SECTION II HERE

1. A drug is anything put into the body, that makes the mind and body work differently.
☐ Yes
☐ No
☐ Don't know
2. Which of these substances contains a drug?
☐ Milk
☐ Coca Cola
☐ Orange Juice
☐ Seven-up
☐ Don't know
3. Aspirins and cough syrups are non-medical drugs.
☐ Yes
☐ No
☐ Don't know
4. Chewing tobacco and alcohol are non-medical drugs.
☐ Yes
☐ No
☐ Don't know
5. Walking, breathing and seeing are controlled by the brain.
☐ Yes
☐ No
☐ Don't know

6. Smoking a cigarette makes a person's heart rate

- ☐ Slow down
- ☐ Speed up
- ☐ Stay the same
- ☐ Don't know

7. Tobacco contains a drug called

- ☐ Morphine
- ☐ Nicotine
- ☐ Cocaine
- ☐ Don't know

8. Some people use drugs because

- ☐ Drugs can make a person feel ill
- ☐ Drugs affect how the body works
- ☐ People like to do other things to stay healthy
- ☐ All of the above
- ☐ Don't know

9. Making responsible decisions is important in our lives.

- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

10. Which of these is an example of responsible use of drugs?

- ☐ A person gives a party and serves only alcohol to drink
- ☐ A person shares his/her prescription with a sick friend
- ☐ Billy is 12 years old and chews tobacco every day
- ☐ Jack is 8 years old and his mother gives him an aspirin because he has a headache
- ☐ Don't know

11. Coffee will sober a drunk person.

☐ Yes

☐ No

☐ Don't know

12. When a person drinks alcohol, his/her body temperature falls.

☐ Yes

☐ No

☐ Don't know

13. Everyone's body is affected in the same way by the same amount of alcohol.

☐ Yes

☐ No

☐ Don't know

14. In your community, who would be the FIRST resource you would go to for accurate drug information?

☐ Elders

☐ Police

☐ Nurse

☐ Teacher

☐ Clergy

☐ Other (specify) _____

☐ Don't know

15. Coffee, chocolate, cola drinks and tea contain

☐ Nicotine

☐ Caffeine

☐ Vitamins

☐ Don't know

16. How does caffeine affect your body?

- ☐ Makes you hungry
- ☐ Makes you sleepy
- ☐ Can upset your stomach
- ☐ Don't know

17. Which is the FIRST part of the body to be affected by alcohol?

- ☐ Liver
- ☐ Brain
- ☐ Heart
- ☐ Don't know

18. Alcohol is

- ☐ A stimulant
- ☐ A depressant
- ☐ Don't know

19. Which one of the following effects of alcohol is short term?

- ☐ Alcohol slows down the brain
- ☐ Alcohol causes cirrhosis of the liver
- ☐ Don't know

20. The part of the body most affected by alcohol misuse is

- ☐ Liver
- ☐ Heart
- ☐ Brain
- ☐ Don't know

21. Which of these is a long term health problem caused by alcohol?

- ☐ Rheumatism
- ☐ Tuberculosis (T.B.)
- ☐ Arthritis
- ☐ Cirrhosis
- ☐ Don't know

22. Which of the following affects the absorption rate of alcohol?

- ☐ Body weight
- ☐ How much food is in the stomach
- ☐ How fast a person drinks
- ☐ All of the above
- ☐ Don't know

23. It is okay to use alcohol when I am feeling sad or bored.

- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

24. I believe it is okay to have a drink of wine with your family.

- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

25. I believe it is okay not to drink even if my friends want me to.

- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

26. I believe local communities should be able to control the use of alcohol.

[] Agree

[] Disagree

[] Not Sure

27. What kind of alcohol is found in alcoholic drinks?

[] Ethyl alcohol

[] Methyl alcohol

[] Don't know

28. Alcoholism is a treatable disease.

[] Yes

[] No

[] Don't know

29. Which of the following is a Social effect of alcoholism?

[] Developing liver disease

[] Increased alertness on the job

[] Loss of friends and job

[] Don't Know

30. Alcohol is metabolized in four stages. Match the stage in column A with its definition in column B, and write in the correct number in the boxes.

A StageB Definitions

- | | |
|-----------------|---|
| 1. Absorption | ☐] The process in which a small quantity of alcohol escapes unused from the body. |
| 2. Elimination | |
| 3. Oxidation | ☐] Alcohol is broken down into carbon dioxide, water and energy. |
| 4. Distribution | |
| | ☐] Blood vessels of the stomach and intestines pick up alcohol soon after it enters the body. |
| | ☐] The movement of alcohol throughout the body. |

31. I would make sure an unknown substance was safe before I would taste it.

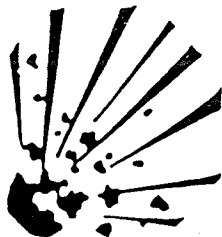
- ☐] Agree
- ☐] Disagree
- ☐] Not Sure

Identify the hazard warning signs.

HAZARDS:



a



b



c



d

32. The poison warning sign is:

[] a

[] b

[] c

[] d

[] Don't know

33. The explosive warning sign is:

[] a

[] b

[] c

[] d

[] Don't know

34. The flammable warning sign is:

- ☐ a
- ☐ b
- ☐ c
- ☐ d
- ☐ Don't know

35. The corrosive warning sign is:

- ☐ a
- ☐ b
- ☐ c
- ☐ d
- ☐ Don't know

36. Which is ^{the} safest way of storing medicine?

- ☐ On the counter beside the sink
- ☐ On a shelf under the sink
- ☐ High up in a medicine cabinet or closet
- ☐ In a locked medicine cabinet
- ☐ Don't know

37. Only a person who is feeling ill should take medicine.

- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

38. A person should take medicine only as directed on the label.

☐ Agree

☐ Disagree

☐ Not Sure

39. Prescription drugs can be obtained only from a doctor, or nurse at a nursing station.

☐ Yes

☐ No

☐ Don't know

40. Spruce gum is an example of:

☐ Prescription medicine

☐ Traditional medicine

☐ An over-the-counter medicine

☐ Don't know

41. Regular exercise is important.

☐ Agree

☐ Disagree

☐ Not Sure

42. A well-balanced diet is important.

☐ Agree

☐ Disagree

☐ Not Sure

43. It is important to follow safety rules at home and in the community.

☐ Agree

☐ Disagree

☐ Not Sure

44. People need to use alcohol to enjoy themselves.

☐ Agree

☐ Disagree

☐ Not Sure

45. It is important for older students to set good examples for younger students.

☐ Agree

☐ Disagree

☐ Not Sure

Alcohol and Other Drugs



ALCOHOL AND OTHER DRUGS SURVEY (N.W.T.) GRADES 8 AND 10

Section II

School Code: _____

Student ID Number: _____

For each sentence or question, put a CROSS [X] in the box that is the best answer. If you don't know the answer, put the CROSS in the box beside don't know. DON'T GUESS.

Sample Questions.

There are 3 sample questions below. The first has been done for you, You are to do the other two.

A) The blood is pumped by the

[] Lungs

[] Stomach

[X] Heart

[] Liver

[] Don't know

B) What part of our body controls thinking?

[] Hands

[] Feet

[] Brain

[] Nose

[] Don't know

C) Healthy teeth are important.

[] Agree

[] Disagree

[] Not Sure

START SECTION II HERE

1. A drug is anything put into the body, that makes the mind and body work differently.
☐ Yes
☐ No
☐ Don't know
2. Which of these substances contains a drug?
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☐ Coca Cola
☐ Orange Juice
☐ Seven-up
☐ Don't know
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☐ Yes
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☐ Don't know
4. Chewing tobacco and alcohol are non-medical drugs.
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☐ No
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☐ Don't know

6. Smoking a cigarette makes a person's heart rate
- ☐ Slow down
 - ☐ Speed up
 - ☐ Stay the same
 - ☐ Don't know
7. Tobacco contains a drug called
- ☐ Morphine
 - ☐ Nicotine
 - ☐ Cocaine
 - ☐ Don't know
8. Some people do not use drugs because
- ☐ Drugs can make a person feel ill
 - ☐ Drugs affect how the body works
 - ☐ People like to do other things to stay healthy
 - ☐ All of the above
 - ☐ Don't know
9. Making responsible decisions is important in our lives.
- ☐ Agree
 - ☐ Disagree
 - ☐ Not Sure
10. Which of these is an example of responsible use of drugs?
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 - ☐ A person shares his/her prescription with a sick friend
 - ☐ Billy is 12 years old and chews tobacco every day
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- ☐ Heart
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- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

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- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

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- ☐ Not Sure

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[] Yes

[] No

[] Don't know

29. Which of the following is a Social effect of alcoholism?

[] Developing liver disease

[] Increased alertness on the job

[] Loss of friends and job

[] Don't Know

30. Alcohol is metabolized in four stages. Match the stage in column A with its definition in column B, and write in the correct number in the boxes.

<u>A Stage</u>	<u>B Definitions</u>
1. Absorption	☐ The process in which a small quantity of alcohol escapes unused from the body.
2. Elimination	
3. Oxidation	☐ Alcohol is broken down into carbon dioxide, water and energy.
4. Distribution	☐ Blood vessels of the stomach and intestines pick up alcohol soon after it enters the body.
	☐ The movement of alcohol throughout the body.

31. Put a cross [X] in the box beside all of the following resources which are available in your community. You may check more than one.

- ☐ Alcohol worker
- ☐ Alcoholics Anonymous
- ☐ Al-teen
- ☐ Al-Anon
- ☐ Local elders
- ☐ Social workers
- ☐ Church workers
- ☐ Mental health workers
- ☐ Nursing station staff
- ☐ Don't know

32. I would drink alcohol if I was taking some other kind of drug.

- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

33. At which alcohol level can a person be charged with impaired driving in the Northwest Territories?

- ☐ 50 mg.
- ☐ 80 mg.
- ☐ Don't know

34. I would drive a motor bike if I had been drinking alcohol at a party.

- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

35. Which of the following is true of drinking and driving?

- ☐ Refusal to take a breathalyzer is a criminal offence
- ☐ Your ^{driver's} license will be suspended for a first offence of impaired driving
- ☐ Teenagers have more alcohol-related traffic accidents than any other age group
- ☐ All of the above
- ☐ Don't know

36. What is the penalty for impaired driving?

- ☐ Put on probation for 3 months
- ☐ A \$300.00 fine and loss of licence for 3 months to 3 years
- ☐ Warning issued
- ☐ Don't know

37. Everything a pregnant women eats or drinks affects her unborn baby.

- ☐ Yes
- ☐ No
- ☐ Don't know

38. In the N.W.T. a local community can decide to control alcohol use in that community.

☐ Yes

☐ No

☐ Don't know

39. If a woman drinks alcohol during pregnancy her baby might suffer from fetal alcohol syndrome.

☐ Yes

☐ No

☐ Don't know

40. Which of these techniques do advertisers use to persuade people to buy alcohol or other drugs?

☐ Famous people

☐ Humour

☐ Rewards

☐ All of the above

☐ Don't know

41. Television lifestyles can influence people's decisions to use drugs.

☐ Agree

☐ Disagree

☐ Not Sure

42. I would make sure an unknown substance was safe before I would taste it.

☐ Agree

☐ Disagree

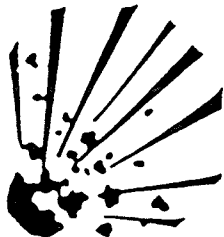
☐ Not Sure

Identify the hazard warning signs.

HAZARDS:



a



b



c



d

43. The poison warning sign is:

☐ a

☐ b

☐ c

☐ d

☐ Don't know

44. The explosive warning sign is:

☐ a

☐ b

☐ c

☐ d

☐ Don't know

45. The flammable warning sign is:

- ☐ a
- ☐ b
- ☐ c
- ☐ d
- ☐ Don't know

46. The corrosive warning sign is:

- ☐ a
- ☐ b
- ☐ c
- ☐ d
- ☐ Don't know

47. Which is ^{the} safest way of storing medicine?

- ☐ On the counter beside the sink
- ☐ On a shelf under the sink
- ☐ High up in a medicine cabinet or closet
- ☐ In a locked medicine cabinet
- ☐ Don't know

48. Only a person who is feeling ill should take medicine.

- ☐ Agree
- ☐ Disagree
- ☐ Not Sure

49. A person should take medicine only as directed on the label.

☐ Agree

☐ Disagree

☐ Not Sure

50. Prescription drugs can be obtained only from a doctor, or nurse at a nursing station.

☐ Yes

☐ No

☐ Don't know

51. Spruce gum is an example of:

☐ Prescription medicine

☐ Traditional medicine

☐ An over-the-counter medicine

☐ Don't know

52. Regular exercise is important.

☐ Agree

☐ Disagree

☐ Not Sure

53. A well-balanced diet is important.

☐ Agree

☐ Disagree

☐ Not Sure

54. It is important to follow safety rules at home and in the community.

☐ Agree

☐ Disagree

☐ Not Sure

55. People do not need to use alcohol to enjoy themselves.

☐ Agree

☐ Disagree

☐ Not Sure

56. It is important for older students to set good examples for younger students.

☐ Agree

☐ Disagree

☐ Not Sure

APPENDIX B - COVERING LETTER

Faculty of Education
University of Manitoba
Winnipeg, Manitoba
R3T 2N2

RE: ALCOHOL AND OTHER DRUGS SURVEY (Northwest Territories)

Dear Teachers:

Enclosed, please find Sections I and II of the Alcohol and Other Drugs Survey (Northwest Territories). As well, instructions to the teacher have been included.

The survey should be administered in two separate sittings of 1 1/2 to 2 hours. Student directions for completing the survey are self-explanatory. Student responses on this survey will be confidential and anonymous. It is hoped that the information collected will help in future program development and program evaluation of alcohol and drug abuse among school students.

Please direct any questions that you might have to the Faculty of Education at the University of Manitoba.

Thank you for your participation in this survey.

Sincerely,

Janet E. Smith
- Graduate Student

/km

Encl.

APPENDIX C - INSTRUCTIONS FOR THE TEACHER

TO THE TEACHER

The Alcohol and Other Drugs Survey (N.W.T.) is divided into two sections. Section I of the survey has questions relating to the students' backgrounds, perceptions about self, alcohol and drug use behaviours, leisure activities and influences of friends and family. Section II of the survey focuses on knowledge and attitudes relating to alcohol and other drugs.

SURVEY ADMINISTRATION:

It is suggested that the survey be administered in two separate sittings. Each section may take 1½ to 2 hours to complete depending on the grades and reading levels of students.

SECTION I:

Student directions for completing the survey are self-explanatory. All questions are answered by putting a CROSS (X) in the respective box. All questions require only one response except questions 75 and 76, which may have more than one. Please have students give a response to every question.

The teacher should go through questions 1 and 2 with the students so that they know how to place their answers in the correct place.

Students should be assured that the responses given on this survey are confidential and anonymous. Encourage students to respond to each question and statement in an honest and accurate manner.

SECTION II: Grade 8

Student directions for completing the survey are self-explanatory. All questions are answered by putting a CROSS (X) in the respective box. All questions require only one response except questions 30 and 31. Please have students give a response to every question. However, emphasize that if students do NOT know the answers to please put the CROSS (X) in the don't know category. The teacher should go through the three sample questions with the students so that they will know how to place their answers in the correct place.

Students should be assured that the responses given on this survey are confidential and anonymous. Encourage students to respond to each question and statement in an honest and accurate manner.